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AMERICAN NURSERYMAN

and The NATIONAL NURSERYMAN

FEBRUARY 15, 1940



Rhododendron Mucronulatum

Propagating Canada Hemlock Varieties
Perennials from Profit Angle
Identifying Woody Plants in Winter
Diseases of Trees

AMERICAN NURSERYMAN

and The NATIONAL NURSERYMAN

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FEBRUARY 15, 1940 Vol. LXXI, No. 4

Table of Contents Page 40
Index to Advertisers Page 42

NEW DEPARTMENT.

The growth in size of this magazine is welcome not only as a sign that services already rendered by the publication are successful, but also as a means toward providing further and more varied material useful to readers.

In this issue is started another department, devoted to tree diseases and conducted by Dr. Leo R. Tehon, who is known not only for his scientific standing in botany and plant pathology, but also for the direct help he has given to the nurserymen of his state of Illinois on their problems in recent years. Through this department, readers will become acquainted with the latest information on tree diseases and learn the practical application of such scientific knowledge.

While on the subject, it is worth mentioning that some practical applications of scientific experiments at the Boyce Thompson Institute of Plant Research are to appear, with the current issue, in the department, "This Business of Ours," through the fortunate coincidence that E. Sam Hemming studied under Dr. P. W. Zimmerman and later made practical use of the institute's experimental findings in the nurseries he conducts with his father, Ernest Hemming. For nurserymen who want to keep their feet on the ground, but let their vision range afar, here is something.

In the next issue may be expected announcement of a department devoted to individual landscape problems, the individual problems in a given home site and their solution being considered, with plans and illustra-

The Mirror of the Trade

tions before and after, to enhance the explanation.

THE MEETINGS ARE OVER.

The other day a reader wrote that he would renew his subscription when we printed something besides meeting reports. Admitting that the past two issues have been largely devoted to the state conventions so numerous at this time of year, the reader who cannot get out of such an issue the value of approximately 4 cents he pays for it either has limited trade interest or betrays an inability to read to advantage.

Possibly he is one of those people who read words, rather than ideas. Of course, just seeing the text on a page and realizing what it conveys is only part of reading. To see the ideas back of the text and, more than that, the application of the ideas to one's own business is intelligent reading.

Reporting a meeting, just as much as editing a magazine, is a process of selection. Those things are presented which are thought to be pertinent facts or may convey information or ideas. More than once, a single paragraph of summary contained the germ of an idea that has meant many dollars to the reader who saw the possibilities in its application.

For the subscriber who is waiting until the meetings are over, there are probably hundreds who have found plenty of food for thought in the numerous and varied ideas presented in the short summaries of many speeches and much discussion all pertinent to the trade in one or another of its phases. Did you give them the attention they deserved?

EFFECT OF WAR.

The import licensing department of the British Board of Trade has decided to grant a corporate license for the importation of rose stocks into Great Britain this year to the extent of one-tenth of those imported last year. No individual licenses will be granted, but a single license will be granted to the Association of British Rose Producers, and the stocks will be distributed on a mathematical basis to all entitled to them, whether members of that association or not.

RHODODENDRON MUCRONULATUM.

Rhododendron mucronulatum, the Korean rhododendron, or azalea as it is often listed, is one of the earliest of the spring-blooming shrubs. It usually blooms in March, accompanying the Korean cherry and forsythia. The flowers are a showy purplish magenta and are produced abundantly. The shrub itself is a half-evergreen plant with numerous branches reaching a height of from six to seven feet. The leaves are relatively small and narrow, ranging from about one inch to two and one-half inches in length. Being semievergreens, they persist well into the winter. Even though the plant has been known since the early 1800's, it has not become abundant in the trade, but where properly used it makes a fine addition to our spring-flowering plants.

Like most of the azaleas, it prefers an acid, well drained soil with plenty of organic matter. However, it is not so exacting in this acid soil requirement as many of the other members of this family. We have found in our gardens that satisfactory growth and excellent bloom occur where the soil is only slightly acid. This is especially true when the plant is provided with good drainage and a liberal incorporation of peat moss with the soil. Korean azalea is free from pests and is adapted to either partial shade or full sunny exposures. Its best use is no doubt in a border planting, although it frequently finds a place in foundations, its normal growing size being somewhat less than that suggested above.

Propagation is usually by seeds, which are handled the same as seeds of other azalea and rhododendron plants. The best time of sowing appears to be in December or January. This will allow the young seedlings to become well established before the hot, dry weather of early summer. There have been a few reports indicating that this plant can be propagated satisfactorily from softwood cuttings. Our results have not been satisfactory, however. L. C. C.

LOW bidder for the landscaping of the grounds of the new Post Office building at Riverside, Cal., was J. V. Hawthorne, Hemet, Cal.

AMERICAN NURSERYMAN

[Registered U. S. Patent Office]

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

FEBRUARY 15, 1940

Propagating Canada Hemlock Varieties

Cuttings Are Found Not Difficult and Even More Satisfactory Than Grafts to Reproduce Typical Form of Plant—By John C. Swartley, Ohio State University

The subject of plant propagation is difficult and elusive—more so than the actual practice itself. Those who are interested in the subject and are acquainted with several expert propagators will undoubtedly lend their support to the statement that there are as many methods of propagating a given plant as there are propagators. They may use the same essential methods, but the varied detailed procedures seriously prescribed for getting results are alarming. It seems to be a matter of each individual's discovering, by trial and error, methods that are effective and then religiously following these methods year after year. Good results are obtained by some of these experts who have never seen the inside (or the outside, for that matter) of a textbook on plant physiology. The writer is personally acquainted with a few who are wonderfully keen and knowing in the propagating and growing of plants. With these points in mind, the writer dares to offer only a few general recommendations concerning the propagation of hemlock varieties.

The traditional method has been grafting, using ordinary Canada hemlock seedlings as understock and handling them in grafting cases in the greenhouse. Until the plant quarantine act became effective in 1918, American nurserymen had been dependent upon Germany and particularly Holland for most of their grafted nursery stock, including hemlock varieties. This act made impractical the importation of woody plants on a commercial basis; therefore American nurserymen interested in hemlock varieties were forced to attempt propagation. The hemlock variety most extensively propagated has been Sargent weeping hemlock and, rather

fortunately, this variety has responded fairly well to grafting. But in general, even at the present time, only one or two growers report satisfaction with the grafting of hemlock. The common complaint is that the union of the stock and scion is apparently imperfect in a majority of the grafted plants. The percentage of "take" may be high enough, but the plants continue to fade out in the frames and even in the nursery rows until the percentage of salable plants is woefully small. The Jeffrey Nurseries, Bellmore, Long Island, N. Y., have obtained good results with grafting, but they insist on using only first-class seedling stock. This is undoubtedly good practice, but by no means represents the total picture. The fact remains that hemlock varieties are difficult to propagate by grafting.

Propagation by seeds is a valuable method practiced with many species of plants, but is evidently not to be generally recommended in the case of plant varieties.

A few nurserymen who have become impatient with the poor results obtained by grafting have resorted to the practice of layering. With the exception of low-growing plants like Sargent weeping hemlock, the number of possible layers on one plant is extremely limited. This procedure has proved successful, but it is probably not practicable on a commercial basis.

Now we arrive at what appears to be the answer; namely, the propagation of hemlock varieties by cuttings. From the standpoint of the buyer, cuttings are usually superior to grafts for obvious reasons. One good reason is that cuttings do not grow out of scale. It is well known that slow-growing varieties which are grafted on a favorable fast-growing stock

will grow faster than the original plant or faster than cuttings of the original plant. The writer has been able to observe original plants of two different dwarf variants of Canada hemlock together with cuttings and grafts propagated from these plants. The Bennett spreading hemlock is growing in the rock garden of Ralph Lott, Eatontown, N. J. It was imported from Japan about twenty years ago by a Mr. Bennett, formerly a nurseryman near Navesink, N. J. This plant is characterized by horizontally spreading branches and is twice as broad as high ($3\frac{1}{2} \times 7$ feet), belonging to var. nana. William H. Wittenberg, of the Wittenberg Nurseries, Long Branch, N. J., has propagated this plant both from cuttings and grafts. Comparing the age of the plants obtained by the two methods and their average size, the grafts have apparently grown at least half again as fast as the cuttings.

The Laurie hemlock was found growing wild near Stoughton, Mass., by Robert Laurie, of the Laurie Nurseries. It has a multistemmed globose habit and is known to some as var. Lauriei, although the writer has called it var. globosa f. erecta. This plant is about 25 years old and is five feet high. Mr. Laurie propagated it ten or twelve years ago both by grafts and cuttings and again, comparing the one with the other, the grafted plant (see illustration) has grown about half again as fast as the cutting.

The variants just referred to clearly illustrate another point which in the past has either been overlooked or has been somewhat uncertain; namely, the effect of the fast-growing stock on the character of the slow-growing scion. When the writer compared the grafts and cuttings of Bennett

spreading hemlock, he almost immediately noticed a nicer arrangement of branches and a finer texture in the plants grown from cuttings. And when he observed the grafts and cuttings of Laurie hemlock, the difference was still more striking. The habit of growth of the grafted plant was entirely different. Although globose and multistemmed like the parent, the lower lateral branchlets were drooping and the upper lateral branchlets definitely ascending, instead of being more or less horizontal throughout as in the parent and in the cuttings. The resulting effect was much less pleasing. The contrast was further emphasized by more crowded and shorter leaves on the grafted plant. By actual count there were about twenty-five per cent more leaves per unit length of branchlet on the grafted plant. It does not necessarily follow that the habit and foliage of hemlock varieties are always affected by the act of grafting, but it is evident that this factor must be seriously considered. It has already been demonstrated that the grafting of slow-growing varieties may cause them to grow out of scale. These considerations, coupled with the high percentage of imperfect unions between the scion and the stock, definitely favor the practice of propagation by cuttings as opposed to propagation by grafting.

The propagation of hemlock by cuttings is not an entirely new procedure, but until recent years it has been somewhat uncertain. The practice was mentioned in several European manuals on conifers and also in a few books published in this country. For the lack of any concrete evidence to the contrary, it

was evidently rarely resorted to until recent years. In 1936, an interesting account of rooting hemlock cuttings appeared in the Hemlock Arboretum bulletin (No. 16). This had been contributed by Howard E. Andrews, of Seattle, Wash. Mr. Andrews reported that he had rooted 390 of 400 cuttings taken in March. But these were handled carefully in a specially prepared bed in a propagating case, using 2-inch cuttings.

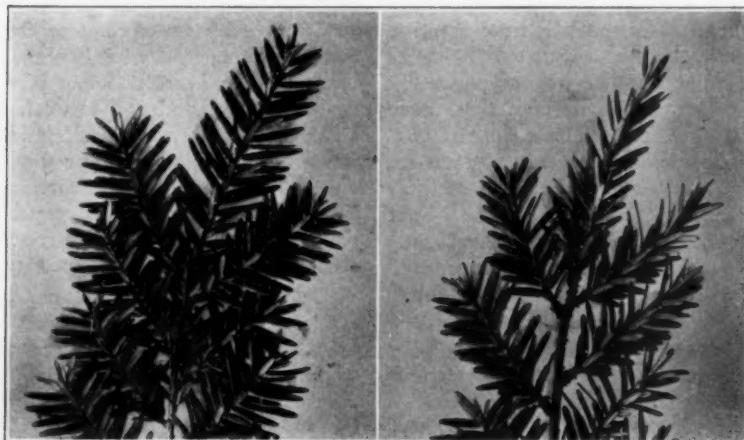
In the next issue of the Hemlock Arboretum bulletin (No. 17), Joseph B. Gable, of Stewartstown, Pa., reported rooting ninety per cent of a lot of early July cuttings of Sargent weeping hemlock in six weeks, in a coldframe covered with Cel-O-Glass. Mr. Gable has since rooted a few other varieties, but stated that he has experienced difficulty in carrying them through the first winter. Another example of coldframe propagation is offered by the Hiti Nurseries, Pomfret, Conn. They reported using that method to propagate the clone of var. compacta which was offered in their catalogue for several years.

The first report of successfully rooting cuttings in the greenhouse with little equipment or attention has been given by Frank L. Abbott, of Worcester, Mass. Mr. Abbott is an amateur interested in hemlocks and rhododendrons. In December, 1937, he treated about 500 cuttings of a number of his own variations of Canada hemlock with a solution of indolebutyric and indoleacetic acid and placed them on the open bench in his small greenhouse. He gave them no attention except a drenching morning and afternoon and shading in late winter. In the month of April

most of the cuttings were prepared to start life independently with good balls of roots. Further proof of the effectiveness of growth hormones was demonstrated when James R. Gillin, of the Ambler Nurseries, Ambler, Pa., rooted 647 of 1,000 cuttings treated with a hormone powder. Of these cuttings 500 were taken from normal Canada hemlock and the other 500 from about a dozen variations. They were placed on an open greenhouse bench in late July, 1938, many rooting in six weeks. The climax of hemlock propagation by cuttings was reached when Dr. K. V. Thimann reported in the January, 1939, Journal of the Arnold Arboretum his experiences in rooting hemlocks and other difficult subjects. He used stronger concentrations of growth substances (twenty and forty milligrams of indoleacetic acid per hundred cubic centimeters of solution) than had been previously reported, rooting 100 per cent at the higher concentration. The cuttings were taken from normal hemlock and Sargent weeping hemlock. William H. Judd, propagator at the Arnold Arboretum, has reported success with other hemlock varieties, treating the cuttings with twenty milligrams of indoleacetic acid per hundred cubic centimeters of solution. Last summer, Hitchcock and Zimmerman, in the Contributions of the Boyce Thompson Institute (10: 461-480), reported the successful rooting of hemlock with indolebutyric acid at the rate of four to six milligrams per hundred centimeters. The optimum dust concentration, using a fine grade of talc, was five milligrams per gram of talc (1-200). They also reported the successful rooting of June cuttings, but added that they were difficult to keep in good condition.

The writer has carried on some experiments with hemlock cuttings and from this experience and the experience of others, some general recommendations may be given as follows:

Cuttings propagated in the greenhouse may be taken in the summer after the growth is sufficiently mature or in the dormant period from November to March. The experience has been that late winter cuttings root more quickly than those taken in fall or early winter. For coldframe propagation, the recommended time is August rather than July. Cuttings taken in August do not need potting until the following spring, thus being



Foliage Detail of Laurie Hemlock, Original Plant Left and Grafted Plant Right.

easier to carry through the first winter and well prepared for the second. Also, the cuttings escape the hottest month, which is usually July, with the advantage of a shorter period of watchful attention. However, the best time for taking cuttings will vary with the individual conditions and methods of handling.

The type and length of cutting are mostly immaterial, depending on the rate of growth of the variety being propagated. Two-year and even 3-year wood usually roots readily, the large cuttings rooting just as easily and more strongly than the smaller ones. Immature tip growth is usually to be avoided, although it will root with a fairly good percentage if well watered. In some German manuals, the inside growth has been recommended for making cuttings. This point is interesting, for the writer has discovered that cuttings from the tips of shaded lateral branches have come through in the coldframe with much less attention than is necessary for cuttings made from the upper branches exposed to the sun. This difference apparently does not apply in greenhouse propagation.

Apparently the most important step in successfully rooting hemlock cuttings is treatment with growth substances; the second most important is the use of comparatively strong concentrations of growth substances. The older wood will stand stronger concentrations than the younger and less mature wood, and even though the base of the cutting is sometimes killed, rooting will take place farther up the stem.

Little need be said about the propagating medium; in general, a mixture of one part of sand and one part of peat by volume has proved superior. Other proportions may be used, or sedge peat may be mixed with sphagnum peat and sand. Mixtures of peat and cinders have also proved successful. Neither a propagating case nor bottom heat is necessary, although bottom heat may be of some advantage in the frame.

The recommendations for handling the cuttings are simple—give them plenty of water. It is not necessary to water the hemlock cuttings more frequently than other conifer cuttings, but water them instead of merely wetting the foliage. This means that if the tap water is alkaline, rain water should be made available in order to

keep the medium on the acid side. Only a moderate amount of shading is necessary, varying with the atmospheric conditions.

There is some good plant material represented among variations in Canada hemlock, and they are not difficult to propagate by cuttings. Select variations which are definitely superior and useful, apply the principles which have been recommended and in a few years the results will be extremely gratifying.

CO-OPERATE IN SHOW.

The most ambitious undertaking of a nurserymen's group in staging a flower show display will be that of the New England Nurserymen's Association at the sixty-ninth spring flower show of the Massachusetts Horticultural Society, which will open at the Mechanics building, Boston, March 11. The nurserymen's exhibit will fill the entire area of the grand hall.

On the stage will appear an old New England village complete with church and school. From the town common will reach forward a pond to the front of the stage, where, banked with flowering shrubs, will stand an old mill dam, its ancient stones covered with mosses and ferns. Beside the dam will be an actual old mill discovered in Connecticut. A stream of water will turn the mill wheel and then run through banks of rhododendron and laurel into a wild bog, where

many New England native plants will be in flower.

Down the hall will stretch a New England village street, each house front to be landscaped by a different nursery firm.

MINNESOTA HEAD.

Dr. William L. Strunk, head of the department of health at St. Olaf College, was appointed Minnesota state conservation commissioner by Governor Stassen, effective February 1, to succeed Herman C. Wenzel, removed from office last November. No changes in the program of the department are contemplated, it is announced, and nurserymen of the state hope that the same coöperation will be given with regard to farm forestry as obtained last year.

Dr. Strunk is 37 years old, married and has one son. Native of New Ulm, Minn., he graduated from the state university, received his doctor's degree from the University of Wisconsin and did further graduate work at the University of Michigan. He has had a varied career in college and commercial work, with long experience in conservation matters.

Ralph F. Jerome, deputy state conservation commissioner, who was acting commissioner during Mr. Wenzel's suspension, announced his resignation, effective April 1, making his statement public one day before the new commissioner took office.



Laurie Hemlock; Foreground, Grafted Plant; Middle, Original Plant; Left Background, Plant from a Cutting.

(Note the horizontal branching habit of the original plant and the cutting contrasted with the upward branching of the grafted plant.)

Peat and Peat Moss

Varying Characters and Qualities of Domestic Peats are Explained at New Jersey Course—By Dr. S. A. Waksman

A large number of peat types and peat preparations are now placed on the market under a number of different names. In view of the fact that these possess different physical and chemical properties, it becomes necessary to recognize the specific differences in these types of peat. It is also essential to emphasize that these types vary not only in chemical composition and in physical properties, but also in values and in utilization.

In general, four distinct types of peat may be recognized at present:

1. Peat moss (also designated frequently as sphagnum peat, highmoor peat, moss and even only peat). This type of peat is fibrous in nature, light brown to brown in color. It is acid in reaction (pH 3.0 to 4.5), is low in nitrogen (about 1 per cent, on a dry basis) and in ash (1.5 to 3.0 per cent, on a dry basis). It has a high water-absorbing capacity (about 1,000 to 2,000 per cent, on a dry weight basis). The moisture content of this peat commonly obtained on the market is about thirty per cent. This type of peat is used primarily as an absorbent in stables and in poultry houses, as well as for horticultural purposes (tree mulching), where an acid reacting humus is required, as well as for packing purposes.

2. Sedge peat and reed peat (also designated as lowmoor peat and frequently as humus). This type of peat is usually dark brown to black in color, powdery when dry or with little fibrous material. It is less acid in reaction (pH 4.5 to 6.8), is high in nitrogen (2.0 to 3.5 per cent, on a dry basis) and in ash (5 to 30 per cent, on a dry basis). In other words, the organic matter content or loss on ignition of peat humus, on a dry basis, would ordinarily vary between seventy and ninety-five per cent. It has a much lower water-absorbing capacity than peat moss (250 to 600 per cent, on a dry basis). The moisture content of this type of peat obtained on the market is usually sixty to seventy per cent. Frequently distinction is made between raw humus, or freshly obtained material, and cultivated humus, if it has been allowed to aerate for a period of several months

to a year, either by surface cultivation or in the form of composts. This type of peat is used primarily for soil improvement and on lawns. Its value should be calculated on a moisture-free and ash-free basis.

3. Forest peat (forest litter, forest mold, oak leaf mold, tree mold, peat mold). This type of peat is brown to dark brown in color, fluffy and somewhat fibrous (less, however, than peat moss). It is acid in reaction (pH 3.8 to 5.5), with fine particles of macerated wood. It stands midway between the other two types in chemical composition, namely in nitrogen content (1.0 to 2.5 per cent, on a dry basis) and in ash (3 to 20

per cent, on a dry basis). It also stands midway in water-absorbing capacity (400 to 800 per cent, on a dry weight basis). This type of peat may be used for mulching purposes and for soil improvement.

4. Peat soil or peat humus (sedimentary peat, peat compost, soil high in organic matter). This type of material is similar to ordinary top soil high in organic matter. It may have originated from peat, by extensive decomposition or may have been produced by composting or mixing of peat with soil. The organic matter content of these preparations may vary from twenty per cent to sixty per cent, on a dry basis. The nitrogen content varies considerably, usually between one-fifth of one per cent and one and one-half per cent. This type of peat may be used for surfacing newly built lawns and for improving the physical structure of the soil.

Rutgers Short Course

Second Annual Event Draws Nurserymen of New Jersey and Adjacent States for Week

Seventy-four nurserymen from New Jersey, New York and Pennsylvania were awarded a certificate for attending all sessions of the one-week short course in nursery management at Rutgers University, New Brunswick, N. J., February 9. All nurserymen who attended felt that the course was an outstanding success. The enrollment exceeded that of the first short course of last year.

Among well known nurserymen present, were J. W. Ebbing and J. L. Van Leeuwen, of Bobbink & Atkins, Rutherford; George Ehrle, Clifton; F. Grandinetti, F. J. Noble and C. V. Lovett, of Lovett's Nursery, Little Silver; Russell Harmon, of LaBar's Rhododendron Nursery, Stroudsburg, Pa.; C. W. M. Hess and son, Mountain View; Eugene Howe, Madison, brother of State Assemblyman William P. Howe; C. R. Jacobus, Upper Montclair, and Walter M. Ritchie, Rahway, president of the New Jersey Association of Nurserymen.

The course was officially opened by Dr. P. P. Pirone, who welcomed the nurserymen in behalf of Prof. F. G. Helyar, director of resident instruction.

Dr. J. W. Shive, plant physiologist, discussed nutrition of plants, stress-

ing the various soilless culture techniques now in use. "Recent improvements in the experimental laboratory technique have made it possible to adapt the solution and sand culture method to the production of plants on a commercial scale," he said. "In spite of recent claims to the contrary, the possibility that large-scale plant production by these artificial methods can ever replace classical agriculture is extremely remote."

Prof. H. M. Biekart, of the department of horticulture, discussed the recent developments in plant propagation. His talk included the recent findings with amide derivatives as aids in quicker rooting of cuttings, vitamin B₁, colchicine and the newer methods of propagating rhododendrons, azaleas and other ericaceous plants.

Prof. E. R. Gross, agricultural engineer, discussed some of the drainage problems in nurseries and showed how these can be solved by using the proper type of ditch or tile drainage.

A nontechnical presentation of the chemical and physical properties of soil by Dr. J. S. Joffe was well received by the group.

The attendance on the second day
[Continued on page 33.]

Perennials from Profit Angle

*Methods of Marketing Herbaceous Perennials and Varieties of Particular Sales Value
Among Newer Kinds, Presented at New Jersey Short Course — By L. C. Schubert*

Viewed purely from the profit angle, the fewer varieties a grower handles and sells, the less shrinkage and lost motion, and theoretically the larger the profit. I say theoretically advisedly because of the varying types of clientele. Purchases of perennials may be roughly divided into three groups: First, the real plant lovers, those who specialize in certain flowers or classes such as the iris, peony, delphinium and rock garden plants; second, those who want an attractive place and who have through study or advice (usually good salesmanship) felt the need of perennials to round out their home plantings either from the angle of color on the grounds or availability of cut flower material; third, the last and perhaps largest is that group which is usually lukewarm and becomes interested through publicity or the planting urge in spring.

The first group usually knows what it wants and often, through study of literature and catalogues and by visits to collections and botanic gardens, has a fund of knowledge that puts even an experienced general perennial man on the spot. These individuals are riding a hobby and their demands tax even the largest growers and can often only be satisfied by the specialist. They are intensely interested and their purchase of a new plant (that means possibly 25 or 50 cents' profit for the nurserymen) calls for much pondering and discussion. Unless you are a specialist, my suggestion would be, serve these customers as well as you can, but do not worry if you cannot fill all their needs. With the thousands of species and varieties listed in the many catalogues throughout the world, it is an impossibility to have everything, and usually these enthusiasts realize this and understand your position.

The second group is one of the most profitable, especially if good salesmanship is used. This does not mean pushing off worthless or inferior plants, but it does mean you can give your customer a worth-while planting and still move some worthy article that you are long on. Usually it means a sale of reasonable propor-

tions, and if satisfaction is given, a proper build-up will bring further sales on new items and rearrangements.

The third and largest group is the one that you should make a special effort to sell, provided it can be worked into your set-up. This group buys largely on sight, and therefore means should be provided to attract them and enable them to purchase the plants that appeal to their eyes. Often members of this class develop into one of the first two groups, and they are responsible for tremendous demand for any particular item that may have struck the public fancy. The road stands and department stores realize the possibilities of this group, and the growth of plant sales through these mediums proves that this great market has not been properly reached by the average nurseryman. Attractive sales grounds are important for all groups.

Attendants should be neatly dressed and courteous, and they need not be expert plantsmen. It has been noted that if they have reasonable intelligence and the articles are marked clearly with name and price, more sales are made by novices than by expert nurserymen. Study your local 5-and-10-cent and department stores, all expert merchandizers. You will note that, in addition to easy access, cleanliness, neatness and prompt service are stressed. Apply these and any other ideas you may note to your own setup.

Some method of preparing plants so that they may be easily and safely delivered to the customer should be developed. These methods may vary with your conditions. Cloverset pots, clay and paper pots, dirt bands, berry baskets, wire baskets and burlap are all practical methods, depending on the plant and your sales method. Speaking generally, the more difficult items, like arabis and alyssum, should be planted in early spring in some rigid container such as a pot or berry basket. Berry baskets or Cloverset pots can be set out on open ground beds. It is best to give them the protection of a frame or even a few boards to

ward off excessive wind. If they are planted early before growth starts, little difficulty will be experienced, and they will shape up well later. This is true of most perennials. Larger growing items can be planted in wire baskets of $\frac{1}{4}$ -inch mesh. This increases their cost and is only practical where a good price can be obtained.

Plants out of the ground on stands suffer quickly from lack of water, and some means of keeping them moist should be devised. One of our most successful nurserymen uses flat tin-lined trays that permit placing the ball or basket in several inches of water. This keeps the plants fresh and eliminates overhead watering, which is messy and ruinous to the delicate blooms.

Bedding out, where soil conditions permit holding a ball, is effective especially with plants having a naturally fibrous root system. Customers' reaction must be watched carefully, because some methods of packaging create an idea that a plant may not be robust enough for the garden. By this I mean that sometimes a plant will not sell in a clay or paper pot, but this same plant planted in a bed of soil or peat moss or simply balled and burlapped, will have more customer appeal. Another important point to remember is that purchasers are attracted by an apparent abundance from which to select. You see this psychology used a great deal in department and 5 and 10-cent stores. This does not infer that you should have a great mass of miscellaneous material, but that you have a good quantity of perhaps only a few items attractively grouped with regard to color. These will command more attention and therefore will open up more opportunities for sales.

No discussion of perennials would be complete without some mention of suitable sales items, and while any list will leave openings for criticism, I shall mention a few that, in my opinion, are important.

Early spring sales can often be made of pans or baskets of the smaller spring bulbs, such as squills, snowdrops, dwarf species of tulips and

others of this type. Violas and pansies are perhaps our earliest and best known harbingers of spring. Peculiarly, no difficulty is usually experienced in getting a good price for violas, but some complain that pansies are not worth handling. However, where a good strain is handled and extra-fine stock is furnished, they often can be made a profitable item. Bedding out where possible seems to be the answer.

Among the violas, Jersey Gem probably leads in sales, but it has the defect of starting to bloom late. Purple Glory starts early and blooms continuously, while my favorite, Beauty of Larone, produces flowers equally well with a better color and size. Under good conditions, these are as large as a good-sized pansy, a feature to which some people object. Grown under rich conditions, most of the violas make a soft growth and often suffer during hot spells. This can be avoided by using only well rotted manure and leaf mold. Apricot Queen or its improvement, Chantryland, makes a splendid foil for all of the three just mentioned, but unfortunately they are not truly perennials. We need a good white (White Jersey Gem is not good enough), yellow or orange and pale blue in this class, but for the present must be satisfied with the varieties available. *Viola pedata bicolor*, a native, is attractive and sells well in bloom.

Anemone Pulsatilla, *aubrietia*, *arabis*, preferably the flore-plena, and *iberis*, or hardy candytuft (the varieties Little Gem and Snowflake are the best), are all good items for spring sales. All of these have poor root systems and require special treatment for handling in bloom. Classed with these might be *Alyssum saxatile compactum*, although this is somewhat overdone. The variety Silver Queen or *citrinum* is better.

Doronicum Clusii, growing only about eight inches high, is a good item in early spring-flowering plants, and *D. excelsum* is one of our finest spring-flowering plants. These two are handled easily and are easy to grow from divisions. At present there seems to be a shortage on *excelsum* because of two unfavorable summers.

Ajuga genevensis and *Anchusa myosotidiflora* are two other early-flowering plants that sell readily and are easy to grow and propagate. The showy bleeding heart, *Dicentra spec-*

tabilis, and its dwarf counterpart, *eximia*, are handled easily and sell well in bloom.

The hardy primroses, *Primula veris elatior* and *P. acaulis*, are showy, easy to grow from seeds and give a range of color from white to deep purple. The primrose family is a large one with many fine items, but many of the species are tricky to grow and mostly appeal to enthusiasts who are willing to give them the conditions they need. Unless you have this type of customer, stick to the easier and more popular varieties.

Long-spurred columbine is one of our finest spring-flowering plants, the demand being greatest for the rich blues, pinks and reds. Lighter colors such as white and pale yellow find a more limited demand. The variety Crimson Star, somewhat more dwarf than ordinary, is purchased readily when in flower. All varieties are easily grown from seeds, but usually the finer hybrids will be found to be comparatively short-lived. This can be somewhat overcome by planting in well drained positions in soil that is not too rich. Transplanted plants usually make fairly good root balls that handle easily.

Heucheras, or coral-bells, are another popular item that never seem to be in oversupply. Good stock can be grown from seeds, but as these are extremely fine, they require considerable care to germinate. Seedlings grow slowly, and we have had best results by carrying them under glass and shade in a coldframe during the first summer. The named varieties may be grown from divisions or crown cuttings. Another method is to pull the leaves from the plants in late September, retaining as much of the fleshy portion at the base of the stem as possible. Inserted in sand, under glass, these root readily and make good plants the following year. These plants are easily handled after they reach a reasonable size. Well grown clumps of the improved *Vinca Bowles* variety are showy, attractive and sell readily.

The new geums, Fire Opal and Princess Juliana, are showy and have the advantage of being easy to grow and entirely hardy.

The Oriental poppies are a problem that we have not entirely solved. When in bloom they demand attention, and any number could be sold,

but unfortunately they resent moving at that time. Planted in pots, the roots run through the bottom and the plants wilt when moved. The variety Olympia is the only one with which we have had any degree of success. The only suggestion I can offer is to have a planting of flowering plants and a number of smaller ones in pots for selling purposes. Where it is not practical to have the plants growing, a vase of cut blooms will serve well and will last three or four days, if the bottom of the stems are burned immediately after the cutting.

No mention has been made of the *Phlox subulata* varieties because it is my opinion that these are overdone, although some of the newer sorts are quite attractive. There are a number of other dwarf spring-flowering plants that are good items, and among these I might mention *Veronica Trehani*, with yellow foliage and dark blue flowers; *Veronica rupestris*, *Veronica gentianoides*, *Sedum kamtschaticum*, *Polemonium reptans*, *Aster alpinus* and *Aster Wartburg Star*.

Considerable work has been done with pyrethrums, and I am pleased to see more and more named varieties offered in catalogues each year. They are perfectly hardy and can be handled easily in bloom, although occasionally they resent this treatment, especially if they suffer from lack of water. They are easily propagated by seeds or divisions. Daisy White Swan is a good companion plant.

Delphiniums are popular and are easily handled before they grow too tall. With care they may be handled with reasonable success even in bloom. Easily the finest are the Pacific hybrids developed by Vetterle & Reinelt. These can be had in white and separate shades of blue. They come remarkably true to shade from seeds, being hand-pollinated, and almost 100 per cent will be doubles. Fancy prices can be obtained for fine specimens. Our experience has been that the finer the strain, the more difficult they are to grow, and this should be taken into consideration. Some strains of hybrids have been developed that are somewhat hardier and more perennial, but as a general rule, three or four years is the average life. The

[Continued on page 34.]

Identifying Woody Plants in Winter

Fifth in a Series of Articles on the Structural Marks and Characteristics of Trees and Shrubs Discusses Evergreens — By Leon Croizat, of the Arnold Arboretum

Some 200 pages of average print would be required by a book entirely devoted to the description of cultivated evergreens, but to digest the essential information on this kind of plant no more than seven or eight pages are needed. As I have said in a previous article, the genera that have horticultural importance are comparatively few. In addition, the rules that govern the growth of conifers are simple. In this article I shall review the peculiarities of the leaf in such a comprehensive way that the reader will find it easy to use to the best advantage all the standard works that describe in detail the evergreens known in cultivation.

The leaves of this kind of plant are often described as dimorphic, and some are said to be scaliform, others acicular. In addition, reference is continuously made by technical writers to stomatic or stomatiferous bands, resinous ducts, pulvini, sterigmas, verticils and the like. It all sounds obscure and often rather confusing. On the contrary, it is all very simple.

About forty-three years ago a brilliant young Frenchman called Grélot made the discovery that the leaves are the actual builders of the twig that carries them, consequently of the whole tree. Put in plain words, Grélot's epochal discovery is that a twig is built downward and in sections like a drainpipe. Each leaf

sends its nerves down the stem to become connected with the nerves of the leaf next below, even as a section of drain is wedged into the section next preceding. In this manner by tying and wedging downward, a twig or a drainpipe of any requested length can be built. The truth of Grélot's findings becomes self-evident, considering, for instance, that the stem of a dracæna or of a century plant is built by the footstalks of the leaves and that a dracæna, like a cabbage, can be whitled down to almost nothing merely by pulling its green leaves apart.

The sections of a drain can be built with a more or less broadly flaring flange. So can a leaf be built with a more or less spreading blade. If we suppose that the leaf has a long stalk which tightly incases the branchlet and a very short blade, we have the type of growth shown in figure 1. If, on the contrary, we suppose that the leaf has an extended blade, we have the type of growth shown in figure 2.

Many evergreens, as for instance the Chinese juniper, have both long and short leaves. This condition is called dimorphism, which in plain English means "being shaped two ways," and the leaves of these plants are called dimorphic. The leaves which are scalelike are scaliform; those which are needle- or awl-shaped are called acicular, from the Latin word *acus*, a needle. Scaliform leaves are illustrated in figure 1, acicular leaves in figure 2.

It is not surprising that intermediate conditions of leaf are found between the two extreme types, depending as to whether the leaf is more or less "pulled out" from the twig which it builds. It is also quite possible to have young growth in which the leaves are needle or awl-shaped and mature growth in which the leaves are scalelike. Fully seven-eighths of the difficulties of the determination of evergreens arise on account of the dimorphism of the leaves. The countless cultivated forms and varieties of retinisporas, arbor-vitæ, juniper, etc., scarcely represent anything more than leaf-forms

and variegated sports which have been reproduced by vegetative means. To recognize these varieties and forms is an art in itself, which no book can teach. To grasp the prime mover of these varieties and forms, on the contrary, is easy. Dimorphism of the leaf is the answer.

In my preceding article I spoke of the spurs, or brachyblasts, found upon ginkgos, larches, etc. It is evident that the evergreens in which are normally found spurs and long shoots have dimorphic growth; that is to say, growth of two different kinds.

As one would expect, there are evergreens in which occurs a double dimorphism, both of leaf and of growth. The pines are probably the best example of such double dimorphism. While the clustered leaves of pine seem to be altogether unlike the whorled leaves of fir, the connecting links between the two kinds of leaves are easily found.

In a pine the leaves are clustered in bundles, sheathed below by blackish thin scales, that grow from the inner angle (the so-called axil) of a scale on the free-growing shoot. This arrangement, shown in figure 3, is a result of double dimorphism. In a pine the leaves are of three kinds; namely, (a) the needles, or true leaves; (b) the blackish thin scales that sheath the bundle of the needles at the foot; (c) the scales on the shoot from which the clusters of needles arise. Of these three kinds of leaves, only the first, that is to say



Fig. 1—Scaliform (scalelike) leaves of Chinese juniper.

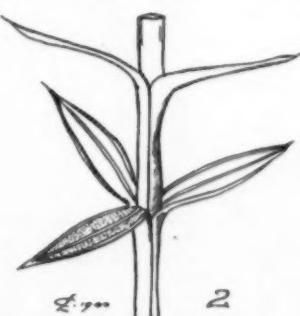


Fig. 2—Acicular (needle- or awl-shaped) leaves of Chinese juniper. Notice how the twig is incased by the extensions of the needles running downward.

the needles, attain full size. The needles are from one to eight in each bundle and could in theory be many more because the cluster is actually a spur that stops its growth after yielding the first or the eight needles. Thus it is evident that in pines the growth is dimorphic, there being (a') a brachyblast, or spur, which is the needle-bundle itself; (b') a free-grown shoot which carries the needle-bundle.

The peculiar doubly dimorphic growth of pines is very close to the growth of the true cedars (*Cedrus*). A brachyblast of *Cedrus Libani* is shown in figure 4. If we suppose that the scales of this brachyblast are few and tightly sheathing, that the whorls of needles are reduced to one, that the end-bud is done away with, we pass from the growth of a cedar to the growth of a pine. The three changes that are required to effect this passage are slight in themselves, merely being steps in specialization of leaf and growth.

The type of growth of the true cedars, of course, is the same as that of the larches, which I have illustrated in my previous article. The only difference between these two kinds of plants is that the leaf of the true cedars persists throughout the winter, while that of the larches falls off.

Let us now suppose that a pine can

be cured of its dimorphic habits and be made to yield but one kind of growth, namely, free-growing shoots, and one kind of leaf. Under this supposition two alternatives are open; namely, (a) the leaf is needle- or awl-shaped, and in this case the resulting growth and habit are that of spruces, firs and yews, which have needlelike leaves and no brachyblasts; (b) the leaf is scalelike, and the resulting growth is that of true cypresses (*Cupressus*), callitris and certain arbor-vitæs (for instance, *Thuja Standishii*), which also lack specialized short spurs. Thus it becomes evident that the leaves and growth-habit of the evergreen derive from a single pattern. The factor that has modified this original pattern is dimorphism of leaf and/or growth, apparently unrelated forms being easily traced back to a common source. I should care to emphasize that simplicity is the rule of nature. Everything in plants and animals harks back to a few elementary principles and everything becomes clear once these principles are recognized. The reader can take for granted that anyone who tries to explain nature's work in some mysterious and involved manner is on the wrong track.

Under the leaf of firs, spruces, etc., are two whitish elongated patches which are called stomatiferous or stomatic bands (see figure 3, B). These bands are not merely pale streaks on the leaf. Seen with a magnifying glass, a true stomatiferous band reveals scores of minute holes wholly similar to pinpricks. These holes are the so-called stomata; that is to say, openings or pores through which the leaf breathes and perspires. The stomatiferous bands are whitish because the resinlike coat that overlies the leaf is bound to leave the opening of the stomata more or less free. It is well known that a transparent lacquer shows of lighter color where it fails to adhere closely to the surface which it coats because the air gets underneath it.

The resin-ducts are minute drains that carry the resin through the leaf. These ducts are conspicuous in the firs, in which they appear either close to the midrib (central resin-ducts) or at the margins of the leaf (marginal resin-ducts). They can be seen with a weak magnifying glass, if not with the naked eye, and are important for the determination of the firs in general. Two marginal resin-

ducts are shown in the upper left hand of figure 3.

The pulvinus (pulvini in the plural) may be briefly described as a "mesh" that appears on the shoot on account of the leaf's sending its enlarged base down the twig. The long growth of larch illustrated in my preceding article shows the pulvini, each pulvinus being limited at the sides by deep grooves and ending above into the base of the leaf. The grooves arise on account of the enlarged bases of the leaves pressing against each other and forming a crease. Creases of the same origin occur in succulent euphorbia. In certain conifers, spruces, for instance, the pulvinus ends at the upper end with a knoblike projection which may be described as the very short petiole of the needle. This knoblike projection is known as a sterigma and is distinctive for the spruces, which it immediately distinguishes from the firs.

As verticils technical writers describe what in plain language is understood as a whorl. Thus verticillate leaves are whorled leaves.

TWO species of daphne, *Cneorum* and *Mezereum*, are the subject of an article by Lester W. Needham, of the Adams Nursery, Inc., Springfield, Mass., in the February issue of Real Gardening.

RECENTLY or currently sojourning in balmy (?) Florida were Henry B. Chase, Chase, Ala.; Lester C. Lovett, Little Silver, N. J.; Louis Hillenmeyer, Lexington, Ky.; George Siebenthaler, Dayton, O., and Ernest Hemming, Easton, Md.

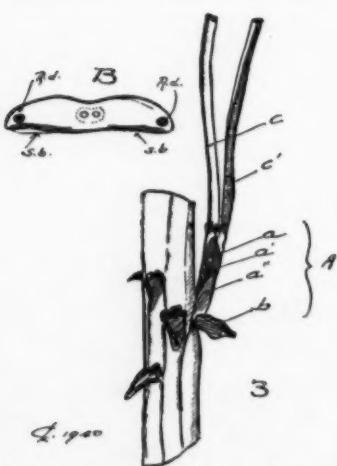


Fig. 3—A branchlet of black pine showing one needle-cluster. The various kinds of leaves are shown, respectively by a, a', a'', which are reduced to scales on the sheath; by b, which is the scale growing from the twig; by c, c', which are the needles. The growth shown by A is actually a short spur (brachyblast). In B a section through the leaf of a fir. The resin-ducts are shown in R.d., the stomatiferous bands (seen in section) by s.b.

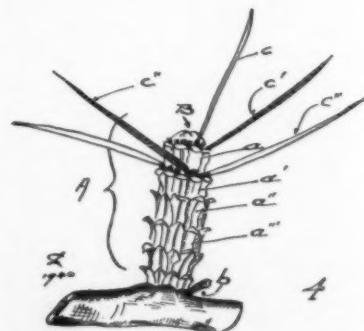


Fig. 4—In A a short spur (brachyblast) of the cedar of Lebanon, with the leaves mostly cut off to show detail. Compare the lettering with that of figure 3, referring to explanation in the text. In B is shown the end-bud of the brachyblast, which appears in cedar, but is abortive in pine.

Excerpts from a Plantsman's Notebook

*Further Notes on the Culture, Propagation and Uses of Many Kinds
of Plants Given Garden Trial in Years Past—By C. W. Wood*

Petasites.

(May 19, 1936.) I watched a large planting this spring of *Petasites japonicus* on a northern Michigan estate that has renewed my interest in this much-maligned genus. Because the kinds known in gardens spread so vigorously from the root, all have earned, justly or unjustly, a bad reputation. According to my observations, they are not plants for the small garden and certainly not for association with delicate neighbors. But they do have their uses, as in the wild garden, for the bog or stream side, and one or two at least because of the tropical effect of their immense leaves.

The best known of the twenty or more species, *P. fragrans*, which has accumulated a number of common names, including butterbur, butterfly dock, pestilence weed and winter heliotrope, in its long association with gardeners, is also the most pestiferous. One can put up with its spreading habits, however, because it is one of the earliest of sweet-smelling flowers to open in spring; if an unwanted spot is chosen for it in a sheltered shaded corner, one is not likely to object to the number of pale lilac heads on 8-inch stems it produces. When listed at all, it is often as *Nardosmia fragrans* that it will be found. Although an old favorite, it is seldom found in nurseries now. That does not mean that it could not be sold if it were shown.

The Japanese species, *P. japonicus*, is the one most likely to attract attention because of its tropical appearance, a role in which it would rival the gunneras if its leaves were more robust looking. As matters stand, this petasites has plenty of merit to carry it forward. Like others of its kind, an early-flowering habit and fragrant blooms are in its favor. The flowers, creamy-white daisies in a wide corymb, surrounded by a rosette of yellowish-green bracts, sweetly fragrant, come in early spring. Its usefulness does not stop with the passing of the blooming period, however, for the succeeding foliage, big kidney-shaped leaves which may be as much as three feet

across and thick petioles as much as five feet long, produces a summer-long tropical effect only comparable with the gunneras. Although it may be grown in rather dry woodland soil, where its leafstalks will not likely exceed two feet in length, it is in a constantly moist rich soil that it does best. I have been told that under the latter conditions, especially if the soil is thoroughly enriched with manure, it will grow six feet tall and is then a really imposing plant.

An American species, *P. palmatus*, which grows naturally in moist soil from Labrador to Alberta and southward to the northern tier of states, also deserves attention. It is an accommodating plant, apparently growing equally well in full sun or deep shade so long as its moisture needs are met. In northern Michigan it usually commences to bloom in late April and continues until late May or June, with whitish to blush fragrant flowers on 9-inch stems. These are followed by deeply lobed (hence *palmatus*) orbicular leaves, which may be two feet tall, though are often less, and as much as two feet across.

They may be grown from seeds, planted in autumn or early spring, and are also easily produced by division. No doubt there are others among the score or more species which could be used in gardens.

Plume Poppy.

Not all common names are so aptly descriptive of their bearers as is plume poppy when applied to the Japanese *Bocconia cordata*. A casual glance will not reveal, as will a critical study, the characters that put the plant in the poppy family, but even a glance shows where plume comes from. The botanists' name for the plant honors an Italian scientist, Dr. Bocconi, and the descriptive term has reference to its heart-shaped or coriaceous leaves. Although it comes from China and Japan, it is quite hardy, standing at least 35 degrees below zero without serious consequences.

The plant has much garden value, not only in wild gardens, where it is often relegated, but as a specimen

plant on the lawn. Given a rich soil and water in dry weather, it will give, as a lawn plant, the much-desired tropical effect to a higher degree and at less trouble than almost any other hardy plant. It should, under that treatment, make luxuriant growth to a height of eight feet, with a background of large glaucous leaves, truly tropical in appearance. It is also useful when used in bold masses in the shrub border.

Its worst fault is a wicked determination to inhabit the entire landscape, but this may be held in check by removal of the suckers every spring. That process also gives the main shoots a better chance to make maximum growth. It also gives increase of stock. In addition to the architectural value, the plant also has no little merit as a cut flower, its long plumes of creamy flowers being of a character and color that should endear it to the modern. Another role—that in which the seed heads are used in winter bouquets—is a pleasant finale to a long season of usefulness and beauty.

Edelweiss.

The truth has been spoken and written so often about the edelweiss that one is supposedly justified in thinking that the preposterous legends about its scarcity in nature, its exacting demands in lowland gardens and its ethereal beauty were long since exploded. Yet, one of the first questions of the visiting beginner in alpine gardening is quite sure to be, "Can you grow the edelweiss?" It is usually spoken in a sort of stage whisper, evidently for fear the shrinking edelweiss will slink away at the sound of anything except the howling of a mountain storm or alp-horn. The truth of the matter is that the plant possesses none of the traits which popular fancy gives it.

A glance at the floras of Europe and Asia shows that its reputation of being rare is not founded on facts. One book says there are "about six widely scattered species" and everyone that has made a serious effort to collect the different kinds knows that Correvon was quite conservative

when he said: "There are as many forms of edelweiss as there are mountain ranges where it grows." And one might add that it inhabits most of the mountains of those two continents except the Caucasus. In fact, it does not need high elevation to make it happy, for it covers wide areas of the near-desert steppes in parts of Siberia. Instead of being rare, then, it is really common and is considered a noxious weed in parts of its range.

Nothing could be farther from the truth, either, than to put it among temperamental plants. All it requires is good drainage and sunshine. Perhaps lime is to be added to the foregoing, because it seems to favor mountains of that formation. A good position for it in the garden is high on the rockery, where water will not stand on its white woolly leaves.

Whether or not the plant is considered beautiful will largely depend upon the individual. If one allows sentiment to have full sway, the woolly leaves and the even woollier bracts which surround the small inconspicuous flowers will be ample reward; if, however, one looks on every plant with an overcritical eye, edelweiss will likely be considered dull. It will not cost much to make the test, for seeds, which usually germinate readily, are always available, and a single packet should yield a wide variety of kinds.

Anthyllis.

(December 30, 1939.) Noticing an anthyllis in an American catalogue this morning, I remembered that the genus is little known in this country. And it started a train of thought trying to figure out why the plant is so seldom used, for some of the species are quite showy, nearly all have beautiful foliage and all the hardy ones that I have grown are among the most indestructible of plants. They should be especially welcome throughout the east and middle west, where plants that are able to stand heat and drought are always at a premium. All of which sent me searching through my notebooks for experiences with these legumes, with the following results:

(August 3, 1921.) *Anthyllis montana rubra*, which has put on a long performance this summer in the open field, is surely a plant of great merit for rock gardeners. It grows not over six inches tall in my light soil, in which it seems to delight, and dry

weather bothers it not at all. Its deep red vetch flowers (the type growing near by is not so pleasing in its purplish shade) in rather dense heads are useful during their season, and its silver-gray hoary leaves are beautiful throughout the open season. I notice that seeds of a form known as variety *carminea*, with carmine flowers, are advertised in Europe. I shall have to get it. (I did, and it proved not unlike *rubra*.)

(July 25, 1927.) After long search I found seeds of *Anthyllis alpestris* last year and have a few plants in bloom this summer. The results are not so exciting as the description led me to anticipate, the leaves of my plants being less silky than my first love, *A. montana*, and the pink and white flowers are not particularly showy. It would, however, be acceptable in some associations where the red or purple of the others might clash.

(December 30, 1939.) I find several references throughout the years to *A. Vulneraria* and a number of its many forms, which differ more in flower color than in other characters, but find little in the books or in memory to recommend it as an ornamental plant. It no doubt possesses merit as a forage plant, though that is a different story, and of course it would be useful in the wild garden to clothe dry sunny spots where little else will grow.

(June 2, 1932.) A plant received in seeds two or three years ago as *Anthyllis Dillenii* seems no more

than a form of lady's-fingers (*A. Vulneraria*). There may be a little more silk on the foliage and the flowers are a good shade of red, but it cannot compare with *A. montana rubra*. It grows too tall for another thing and flops like a sand vetch.

Note: All the species are easily grown from seeds. They are not moved easily when in active growth. Montana, at least, may be potted up while dormant for customers who buy late in the season.

Valeriana Rotundifolia.

(June 13, 1927.) It may be because I do not get around much that I have never seen *Valeriana rotundifolia* in an American garden or nursery, but an unsuccessful search of a rather extensive catalogue file tells me it is quite a stranger here. The only reference found to it was a little note in an amateur publication in which it was made synonymous with *V. globulariæfolia*. That can hardly be true, however, for the latter—a Spanish plant, I believe—grows no more than four inches high, while the subject of this sketch may be twice that tall and they differ in leafage and flower color as well. Be that as it may, *V. rotundifolia*, which comes from the Alps, is a pleasant little plant for a sunny plain in the rock garden, where it will add rather large heads of rose-colored flowers to the June scene. It is easily grown in a light soil containing some leaf mold and may be propagated from seeds or division.

HENRY T. MAXWELL.

Henry T. Maxwell, last month elected president of the New York State Nurserymen's Association, is secretary-treasurer of Maxwell-Bowden, Inc., Geneva, N. Y. He is the son of Henry E. Maxwell, who was one of the firm of T. C. Maxwell & Bros., which was established in Geneva in 1847 and which operated successfully in the Geneva area for over fifty years. The father later turned to the fruit-growing business, in which he was followed by Henry T. Maxwell. Now he, in turn, has returned to the nursery industry in the firm of Maxwell-Bowden, Inc. Mr. Maxwell has been four times mayor of Geneva and otherwise active in civic affairs.

ON the Bremerton highway, Port Orchard, Wash., a nursery is being opened by Robert Barber.



H. T. Maxwell.

Michigan Meeting Sets New Record

Largest Attendance at State Convention Engages in Lively Discussions That Require Extra Session at Lansing — By Harold E. Hunziker

The nineteenth annual convention of the Michigan Association of Nurserymen was held at Lansing, February 7 and 8. The sessions were exceptionally lively, and each had a discussion period which was well used. In fact, it was voted to hold an extra session in the afternoon of the second day for further discussions. About 135 attended, marking a high point.

Arthur L. Watson, in the president's address, pointed out the faithfulness of the executive committee members in attending the five or six meetings held each year. He recommended that the membership campaign conducted during the last three years be continued. The drive had increased membership from twenty-six to 131. He recommended the continuation of the monthly bulletin and that the secretary, who edits the bulletin, be given enough funds to cover clerical help connected with this and other activities of the secretary's office.

The recommendations were referred to a resolutions committee for consideration, consisting of Harold Paul, Walter Coon and Bert Manahan, which later reported favorably on all of them.

The treasurer's report, read by Harold E. Hunziker, showed a balance of cash and accounts receivable of \$517.74 against \$444.89 for the previous year, in spite of the activities of the year. The report was audited by Eugene Heuser and Walter Coon and found correct.

Benjamin J. Greening spoke in his capacity as an executive committee member of the A. A. N. Money and numbers are still needed to carry on activities not even started, because of lack of funds, he said.

Prof. C. E. Millar, of the soils section of Michigan State College, spoke on lawn making, pointing out the need for grass to set off all landscape effects.

Harold Paul, Monroe, gave the membership committee report, showing increase from twenty-six in 1937 to 131 at opening of the 1940 meeting. He said several applications had been signed at the meeting. He expressed the belief that there were at least fifty more nurserymen in the state that should become members.

Alex. Hunziker, Niles, reported on the relations committee and spoke of its conference with Director Baldwin, of the extension department of Michigan State College.

Benjamin J. Greening reviewed the activities of his legislative committee's work with the state bureaus and especially the Michigan unemployment compensation commission.

The nominating committee, composed of J. I. E. Ilgenfritz, Walter Montfort and B. J. Manahan, presented the following slate, which was elected: President, Elden H. Burgess, Galesburg, vice-president, Harold P.



Elden H. Burgess.

Paul, Monroe; secretary-treasurer, Harold E. Hunziker, Niles; executive committee members, Walter Montfort, Benton Harbor, and Bernard Ward, Lansing.

The hold-over members of the executive committee are B. J. Manahan, Romeo, and N. I. W. Kriek, Lansing.

With the A. A. N. regional meeting coming to Michigan next year, a central location was desired for next winter's meeting. After considerable discussion, Jackson was selected for the meeting, to be held the first week after the Illinois state meeting in January, 1941.

At the banquet 102 were present. After the meal, a contest was held, in which the out-of-state team of Howard Chard, Roger Champion and Newt Averill won huge cigars. A floor show of dancers and acrobatic performers

was agreeably received. Elmer Beamer, new commissioner of agriculture, dropped in on the gathering from another meeting and spoke briefly.

The speaker of the evening was Frank Witwan, manager of the Graphic Arts Association, Grand Rapids. He spoke on "The Dummy knows Salesmanship." He was quite critical of the "front" presented to the public by some nurserymen. He pointed out that salesmanship requires that we create an atmosphere in the presentation of our goods. One never builds customers by one sale, Mr. Witwan pointed out. One must build confidence by the things done for the customer after sales are made.

C. A. Boyer, new director of nursery inspection, reviewed the year's activities. He told of collecting about \$27,000 from the nurseries and the restoring of \$15,000 by the legislature to run his department efficiently. A new activity is the digging-time inspection, at no cost to the nurserymen.

Mr. Boyer asked the association to send a representative to Washington and adopt a resolution against the lifting of the Japanese beetle quarantine. He asserted that it increased nursery operation expenses thirty-five to forty per cent to operate in the beetle areas. Subsequently the resolutions committee drafted resolutions favoring the Japanese beetle quarantine and the opposing federal inspection instead of state.

Prof. Donald Cation gave a paper and showed some slides on the various virus diseases affecting stone fruit. He warned that men responsible for selecting propagation wood be well informed on the local virus diseases and that new varieties and importations from other states be undertaken with extreme caution.

The secretary announced that F. R. Kilner, editor of the American Nurseryman, who was to appear on the program, was kept home by a sore throat.

Harold Paul reported on the colored film made for garden and service club showing last year. He reported that the film had been shown forty-

nine times to 3,500 people and was booked for six showings the following week.

Robert Long, director of public relations of the department of agriculture, outlined the activities in connection with the establishment of the E. C. Mandenberg memorial. Mr. Mandenberg was for twenty years director of orchard and nursery inspection. The plan is to purchase eighty acres of forest land at \$4 per acre from the government. A bronze plaque is to be donated by Michigan State College alumni. A shelter and well is to be constructed by the highway department and the United States Forest Service is to plant the plot. During a short recess thirty-four nurserymen contributed \$62 to the fund.

Considerable discussion centered on the activities of the landscape extension department, and a resolution by a special committee of Harry Malter, J. I. E. Ilgenfritz, Alex. Hunziker and M. F. Carter was adopted.

A good number stayed over for the extra afternoon session to hear the report of the resolutions committee on the work of the extension department.

Harold Paul, vice-president, conducted the session, as President Burgess, Benjamin J. Greening and Bert Manahan returned for further sessions at the state house on legislative matters.

A discussion followed Harry Malter's invitation to nurserymen to attend the National Shade Tree Conference.

GOING UP!

This issue sets new high records for (1) number of pages, (2) number of advertisers, (3) volume of advertising, (4) number of subscribers and (5) number of copies printed.

ARE YOU MAKING FULL USE OF YOUR TRADE PAPER TO DO BETTER BUSINESS?

One Experience:

"We have received many nice orders from our advertising and added several new customers to our list. We are still getting orders from our September and October advertisements and think we shall sell out, but if we see later we are going to have a surplus, we will then send you another ad. We thank you very much for the good work you have done for us."—O. H. Perry Nursery Co., McMinnville, Tenn. February 9, 1940.

ence, in August, at Detroit. It was suggested that possibly the local committee could arrange a program for the summer meeting of the Michigan Association of Nurserymen to take in the demonstrations and some of the talks delivered at the conference. It was voted, if such an arrangement could be made, that the summer meeting be held in Detroit at that time.

Acknowledgements were made to the local committee, Bernard Ward, L. B. Wardell and N. I. W. Kriek, for their splendid arrangements, to the Millett Nursery Co. for the flowers on the banquet tables, to the Hilltop Orchard & Nurseries, Hartford, for the apples, to Michigan State College for the apple juice and to Mrs. Arthur L. Watson and committee for taking care of the twelve ladies present.

A. A. N. Chapter Meeting.

A membership report read by Harold Paul at the A. A. N. chapter meeting showed increase in the national organization and five new Michigan members, which brings the total to thirty-six members.

The nominating committee recommended that the same officers as those of the Michigan association should lead the chapter.

Delegates for two years are Harold Paul and Harold E. Hunziker. Hold-over delegates are Arthur L. Watson and B. J. Manahan. Alternates selected were: Elden H. Burgess, Walter Montfort, Harry Malter, N. I. W. Kriek and Robert Ackerman.

WISCONSIN MEETING.

The twenty-third annual convention of the Wisconsin Nurserymen's Association, and the first extended to cover two days, was conceded by all those present to have been the most successful meeting in the history of the organization. It was held at the Hotel Schroeder, Milwaukee, February 7 and 8. Twelve new members were added.

Officers elected for the ensuing year are: President, James Livingstone, Holton & Hunkel Co., Milwaukee; vice-president, Oscar Hofer, Racine; secretary-treasurer, H. W. Riggert, Coe, Converse & Edwards Co., Fort Atkinson.

A resolution was adopted that the initial dealers' license fee of \$5 be increased to \$10 for both dealers and growers handling a general line of

nursery stock. It was voted to hold a midsummer meeting.

An outstanding feature of the program was a talk by Eugene Wengert, president of the Milwaukee chapter of the Izaak Walton League. He told the nurserymen they could be instrumental in enriching the average citizen's use of leisure hours produced by the shortened working days of this age, inasmuch as making things grow in the garden is one of the most satisfying of hobbies.

SET ILLINOIS DATES.

At a meeting of the board of directors of the Illinois State Nurserymen's Association, at Chicago, February 1, the dates were set for the annual meeting in 1941, which will be January 14 to 16.

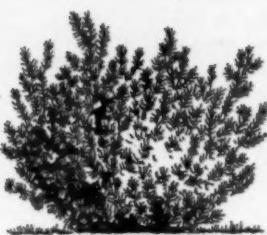
Present at the meeting to discuss with the directors the proposed hearing on the Japanese beetle quarantine at Washington, February 27, were John H. Lloyd, director of the state department of agriculture; L. A. Moore, superintendent of the division of plant industry; H. F. Seifert, chief plant inspector, and Dr. W. P. Flint, chief entomologist of the state natural history survey. The beetle problem is of special interest in Illinois because in the state are grown more than half of the soy beans produced in the country today, over two and one-half million acres with a gross value of nearly \$50,000,000 per year. The association voted to send two representatives to the hearing, probably Arthur H. Hill and Secretary Miles W. Bryant, while at least three of the four state representatives named will attend.

Secretary Bryant recently issued a bulletin to association members, calling their attention to, among other things, the provisions of the new Illinois truck act, which are that truck operators in the state after March 1 must have a certificate that each truck has passed a safety test, must file with the state department of public works and buildings policies showing insurance covering liability and property damage and must have the name and address of the owner and the maximum empty weight painted on each truck.

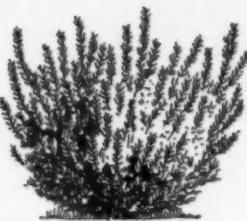
FIRE damaged a greenhouse of the Hermosa Nursery, Durango, Colo., to the extent of \$1,000 recently. The property was not insured.



Brown's Yew



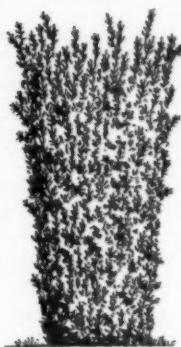
Dwarf Japanese Yew



Intermedia Yew



Hick's Yew



Hatfield Yew



Upright Japanese Yew



Spreading Japanese Yew

JAPANESE YEWS

To the Wholesale Trade Only

17,000 Japanese Yews made up of seven outstanding varieties and valued at more than \$40,000 are now placed on sale to the wholesale trade in the middle west.

All of these varieties are of the Japanese Yew family and are of equal hardiness, well suited to severe climatical conditions.

Japanese Yews of various kinds are now almost essential in the better landscape jobs, replacing many of the older and less attractive evergreen trees. We have for several years been building up an extensive stock of Yews, which it is our purpose to continue and maintain in even greater assortment of sizes and additional varieties as they are proven to be suited to this climate.

Since the introduction of Japanese Yews from Japan many years ago, numerous horticultural varieties have been placed on the market. Unlike most families of Evergreens, there is scarcely any variation in foliage, or in color in contrast to the wide differences which occur in other families of Evergreens. There are, of course, trees of richer green and more waxy foliage, but the fact remains that the main difference between various forms of Japanese Yews, so far as the nurserymen and landscape men are concerned, is the variation which occurs in the shape of growing habit of the tree.

In these sketches are shown seven types, which in our opinion, based upon many years of investigation and careful testing, are among the outstanding forms.

Send for wholesale price list
illustrated in full colors.

D. HILL NURSERY CO.

Evergreen Specialists—Largest Growers in America

DUNDEE, ILLINOIS

This Business of Ours

*Reflections on the Progress and Problems
of the Nurseryman—By Ernest Hemming*

GERMINATING CHINESE CHESTNUTS.

Several years ago when our first crop of Chinese chestnuts was harvested and sown, we were much disappointed to get a low germination. These nuts were planted in rows in the field, rather than in beds, so that mice, etc., would not be so likely to get them. For a similar reason we hesitated to mulch them.

Concurrently with our failure there was a paper in the Contributions from Boyce Thompson Institute, volume 8, number 1, by Lela V. Barton, on "Seedling Production in *Carya Ovata*, *Juglans Nigra* and *Juglans Cinera*." Miss Barton reported that pretreatment of two to four months at low temperature in a moist medium was necessary for seedling production in butternut and black walnut. Likewise, a similar pretreatment in moist soil of hickory nut at temperatures of 3 or 10 degrees centigrade for one to five months aided seedling production. But most important, and I'll quote, "Good seedling stands of the three forms studied were produced by fall planting when the seeds were protected by a mulch or a board cover. Exposure to freezing and thawing was harmful." Apparently the winter conditions in the field with the freezing and thawing had in some way harmed the nut. Using the clue furnished by Miss Barton, we decided to try planting the chestnuts under board covering, using just plain 1x12-inch boards on the surface of the ground. The excellence of the germination the following spring was gratifying.

The Chinese chestnuts dry out shortly after harvesting; so we sow them within a month. Carrying them through the winter in the soil keeps them in good condition, "the moist medium" suggested by Miss Barton. Keeping them in cold storage would probably work, but is unnecessary. We have since changed our covering method somewhat to get away from the boards because of possible hiding places for vermin. The chestnut is a choice morsel of food for any rodent. We now plant the nuts near

the surface and cover them with a mound of at least eight inches of soil, which is raked off in the spring.

If you have trouble in germinating good stands of acorns and other nuts, it would seem likely that these findings of the Boyce Thompson Institute would be applicable here.

Sam Hemming.

PRUNING.

Pruning is an operation that might mean anything from sawing a dead branch from a shade tree to cutting back a rosebush, but the pruning I wish to comment upon is that which it is necessary to give a tree on the nursery, during its growth from a small seedling to a saleable size, say of 2½-inch to 3-inch caliper or more.

Unfortunately "old man economics" largely governs nursery practice, and too often in attempting to save time and money we sacrifice quality in our products. This is true in the

operation of pruning. Theoretically, the ideal way to prune, or perhaps we should say train, a tree is with the thumb and finger by pinching back or rubbing off the buds where growth is not wanted. This hardly seems practical on a nursery where there are thousands of trees to a block. Yet, if the operation is done at the right time, when the young trees are making their growth, and by a plantsman who knows what he is doing, pruning by knife can be reduced to a minimum to the great advantage of the trees.

All operations should be planned to conserve growth and avoid a check to their growth. With trees like the maples, it is a simple matter to grow trees with a straight leader, although the Norway maple in some localities has a tendency to lose its terminal bud, causing forks and kinks in the trunk, which are more easily corrected by summer training than winter pruning. But the thing to avoid with fast-growing trees that usually form straight leaders is not to prune them up too high in one operation. Two or three feet, or what is equivalent to one year's growth, at a time gives the best results.

SPECIAL PRICES FOR FEBRUARY

See our two-page advertisements in the January 1 and 15 issues, also half-page in the February 1 issue of the American Nurseryman, offering attractive prices and special discounts for quantity orders. Better cover your wants while this offer is on; it will positively be withdrawn March 1.

We are quoting attractive prices on

BARBERRY THUNBERGII, 1 and 2-year seedlings and finished stock.

PRIVET AMOOR RIVER NORTH and IBOTA, 1 and 2-year, all grades.

SPIRÆA ARGUTA, THUNBERGII and VANHOUTTEI, 1 and 2-year.

SILVER MAPLE, CATALPA, REDBUD, WHITE and GREEN ASH, BLACK WALNUTS, SWEET GUM, TULIP TREE, MAGNOLIA MACROPHYLLA and TRIPETALA, AMERICAN SYCAMORE, LOMBARDY POPLAR, OAKS, assorted; AMERICAN and CHINESE ELM, HALL'S and SCARLET HONEYSUCKLE, CELASTRUS ORBICULATUS and SCANDENS; also many other items.

Spring trade list will be mailed February 25. If you are not on our regular mailing list, ask for a copy.

Send your want list for special quotations.

FOREST NURSERY COMPANY, INC.
McMinnville, Tennessee

Established 1887
By J. H. H. Boyd

J. R. Boyd
President

Special Introductory Offer of SHALIL ROOT STOCKS

The new, remarkably vigorous Nematode-resistant wild peach introduction from India—U.S.D.A.—P.I. No. 36485

The following varieties are available on Shalil root stocks in our Alabama plant in fine June buds, grading mostly $\frac{3}{8}$ to $\frac{1}{2}$ -in. caliper:

| | |
|---------------------|------------------|
| 700 Early Hiley | 1,450 Hale Haven |
| 875 J. H. Hale | 750 Early Rose |
| 1,500 Georgia Belle | 5,250 Elberta |

Special introductory wholesale quotation, \$150.00 per 1000, f.o.b. Baileyton, Alabama.

Leading California varieties on Shalil, \$200.00 per 1000 f.o.b. Madera, California.

Stratified Shalil and Yunnan seed, \$25.00 per 1000.

Wire or Airmail

KIRKMAN NURSERIES, TRACY, CALIF.

It is, however, the hard-wooded or slower-growing trees, such as the oaks and beech, that are more difficult and slower to form straight trunks and with these it is certainly worth while to train to get leaders during the summer growth.

Of course, there are all kinds of attempted short cuts to get good straight whips for lining out in nursery rows, such as leaving them crowded in the seedbeds or bedding them out close together so they will get drawn up, but in the last analysis you seem to lose about as much as you gain. The best practice is to aim at growing the trees without a check and the least pruning possible to produce the desired form.

E. H.

CASE INCORPORATES.

Paul E. Case has purchased full ownership of the firm of Linley & Case, landscape contractors, Ridgefield, Conn., and has incorporated the new business as the Case Co.

The volume of business done by the Case Co. the past year has been quite satisfying. A complete job of landscape contracting is done by the firm. The new company is divided into two sections, planting and construction. The planting division has moved many large trees the past season and has completed several gardens, using a good volume of choice plants in matured sizes. No nursery is main-

POTTED EVERGREENS

Greenhouse-grown. Ready for May 1 shipment.

| | Per 100 |
|--|---------|
| Juniperus—Andorra, Pfitzeriana, Sabina, prostrata, excelsa stricta, 2½-in. pots | \$10.00 |
| Juniperus scopulorum, 2½-in. pots, 10 to 12 ins. | 15.00 |
| Juniperus scopulorum, 2½-in. pots, 8 to 10 ins. | 12.00 |
| Taxus cuspidata, capitata, 2-in. pots | 10.00 |
| Taxus Hickel, 2-in. pots | 10.00 |
| Pyramidal Arbor-vitæ, 2-in. pots | 8.00 |
| Woodward's Globe Arbor-vitæ, 2-in. pots | 8.00 |

DECIDUOUS LINING-OUT

| | Per 1000 |
|---------------------------------|----------|
| Aronia arbutifolia, 6 to 8 ins. | \$25.00 |
| Aronia melanocarpa, 6 to 8 ins. | 25.00 |
| Cornus paniculata, 8 to 10 ins. | 15.00 |
| Alpine Currant, 2-in. pots | 50.00 |
| Photinia villosa, 8 to 12 ins. | 25.00 |
| Witch-hazel, 8 to 12 ins. | 50.00 |
| Witch-hazel, 6 to 8 ins. | 35.00 |

FLOWERING CRABS

| | |
|---|--|
| Atrosanguinea, coronaria, floribunda, Hopa, | 2 to 3 ft., \$17.50 per 100, \$150.00 per 1000. |
|---|--|

VINES AND GROUND COVERS

| | |
|--|---------|
| Boston Ivy, 2-yr., No. 1. per 100..... | \$20.00 |
| Baltie Ivy, 2-in. pots, per 1000..... | 50.00 |
| Vine minor, 2-in. pots, per 1000..... | 50.00 |
| Phlox divaricata, per 1000..... | 50.00 |
| Wild Ginger, per 100..... | 7.50 |

Write for List of Other Stock.

HOOK'S NURSERY

Box 25
Highwood, Illinois

tained by the firm. The construction division has finished four large contracts, including road building, considerable fine masonry work, tennis courts, a bathing beach and boathouse, terraced gardens, etc. All of this work was private development.

Mr. Case is considering establishing a perennial nursery, handling only novelties and choice old varieties along with small shrubs and evergreens. This new project is being considered as a means of stabilizing employment. Al-

ready, by developing the construction division of his business, he was able to keep his full force on forty-two weeks out of fifty-two. With added profitable employment offered by the perennial nursery, more men may be kept throughout the year.

THE contract for landscaping the Funston avenue approach to the Golden Gate bridge, San Francisco, Cal., is held by the Leonard Coates Nurseries, San Jose.

Diseases of Trees

Symptoms Described of Two Different Types of Cankers Recently Reported on Maples — By Dr. Leo R. Tehon

NEW DISEASES OF MAPLES.

Two new diseases of maple trees, hazards additional to the well known and destructive verticillium wilt, have been described recently as occurring in eastern states. One of these diseases is a basal trunk canker or rot; the other is a bleeding canker which occurs on the trunk and branches. Although different in manifestation, these two diseases are caused by closely related species of fungi of the kind known as phytophthora.

Basal Canker.

The basal canker, reports Dr. P. P. Pirone, of the New Jersey agricultural experiment station, killed hundreds of maple trees, particularly Norway maples, throughout New Jersey during 1938 and 1939. Earliest evidence of the presence of the disease is a thinness of the crown of the tree, due to a decrease both in number and size of the leaves produced by the tree. After the appearance of this symptom, diseased trees die within a year or two.

Most striking symptom of the disease is the canker which occurs at the base of the trunk, near the soil line. This canker, expanding laterally around the trunk, eventually girdles the tree, thus killing it. Within the area of the canker the inner bark, the cambium and, often, the sapwood show evidence of the disease by being characteristically reddish-brown in color.

In attempts to reproduce the disease in healthy trees, infection has been obtained only when trees have been wounded before being inoculated. No infections have been obtained through undamaged bark. Inoculation of young rhododendrons produced symptoms typical of the phytophthora disease of rhododendron, but inoculation of flowering dogwood produced no disease, facts suggesting that the maple and rhododendron phytophthora diseases are the same, but different from the phytophthora disease of dogwood.

In the limited report now available there is no suggestion of possible control measures for the basal canker

Tree diseases in recent years have been the subject of increased investigation by scientific workers, whose findings in many cases are of direct practical value to the nurseryman and commercial arborist. Such material will be presented in readily understandable form in this department, beginning with the current issue, by Dr. Leo R. Tehon, who combines some commercial experience with his experience as plant pathologist. Since 1921 he has held the position of botanist, and from 1935 he has served as head of the section of applied botany and plant pathology, of the Illinois state natural history survey, at Urbana. His membership in numerous scientific organizations and his authorship of many bulletins and articles qualify him further. That he is an honorary member of the Illinois State Nurserymen's Association testifies to his standing in the trade in his own state. Besides contributing the articles and reviews which will appear in this department of the American Nurseryman, Dr. Tehon will make diagnoses and reports for readers if they wish to send inquiries and specimen material of diseases to the magazine office.

disease or for the treatment of trees that have become infected with it.

Bleeding Canker.

Bleeding canker is reported to be causing the death of ornamental ma-

ples, especially sycamore and Norway maples, in private grounds, parkways and nurseries in Rhode Island and eastern Massachusetts. According to Nestore Caroselli and Dr. Frank L. Howard, of the Rhode Island agricultural experiment station, whose investigations on a Bartlett tree research fellowship have brought this disease to light, the hard maple, silver maple, red maple and black maple are also subject to attack and injury.

Cankers characteristic of the bleeding canker disease, although indefinite as to shape, extend greater distances vertically than laterally, and in this respect differ from those of the basal canker disease. On young trees with smooth bark they are visible as sunken areas which cause the trunk to appear furrowed. But on older trees the thickness of the bark obscures them. As these cankers develop, fissures occur in them, and sap oozes from the fissures. This ooze, on drying, resembles dried blood.

Infection of the underlying woody tissues appears to have taken place prior to the appearance of the cankers and the oozing of sap. Indicative of infection in the wood is a reddish-brown discoloration, which often is bordered by an olive-green margin. This discoloration may be traced from the trunk into the roots, which apparently are uninjured. It appears that the disease gains en-



DAPHNE CNEORUM

for
MOTHERS' DAY

Place in coldframes April 1. Apply sash May 1 and they will be in full bloom for Mothers' day. Can be safely shipped by freight.

Prices include packing

ADAMS NURSERY, INC.
Westfield, Mass.

FINEST LANDSCAPE STOCK

Covering all of the best shrubs and plants for the south.

Also a half million of lining-out

CAMELLIAS, AZALEAS AND GENERAL NURSERY STOCK.

Write for Price List.

E. A. McILHENNY

Specialist in CAMELLIAS, AZALEAS, IRIS and HEMEROCALLIS
AVERY ISLAND, LA.

trance through the roots and travels upward through the trunk and branches.

The course of the bleeding canker disease in various trees shows both chronic and acute phases. In old, slow-growing trees the disease progresses slowly, causing the trees to produce fewer, smaller, yellow-green leaves and the branches to die back. Sparseness of foliage is more characteristic of the disease in sycamore maples, and dying back of branches is more characteristic in Norway maples. Production of an abnormally large quantity of seeds also frequently accompanies infection. Young, rapidly growing trees may be killed by the disease in one to three years.

Undisturbed trees growing in moist situations are most easily infected, and in them the disease progresses most rapidly. Transplanted trees standing in drier situations are less easily infected, and in them the disease progresses slowly. Heavy feeding and watering, as commonly recommended for the treatment of maples infected with verticillium wilt, appear not to be desirable for trees having the bleeding canker dis-

ease. Injection of the diseased trunks in the vicinity of cankers, using a dinitroresol, the composition of which has not yet been fully reported, has given promise experimentally of blocking off the progress of cankers in a number of diseased trees. This chemical is said to act also as an antitoxin in diseased trees.

PITTSBURGH GROUP MEETS.

The Western Pennsylvania Nurserymen's Association met February 9 at the Fort Pitt hotel, Pittsburgh, and twenty member firms attended.

A new plan covering a larger field of activities was discussed and tentative approval given.

To replace the usual monthly evening meetings, it was proposed that there be four all-day meetings each year, at which times there will be several authorities who will give talks on subjects of interest to the members. These meetings will be held during the slack periods in our trade.

The territory to be covered by the association was broadened to include an approximate radius of 150 miles from Pittsburgh, and membership

will be available to all firms connected with the nursery, landscape and allied trades.

The next meeting to be held will be a dinner and evening session early in March, at which meeting there will be a speaker of note. Plans will be completed and new members obtained.

Anyone interested in becoming a member can obtain details by addressing the secretary at 2945 Beechwood boulevard, Pittsburgh.

L. E. Wissenbach, Sec'y.

THE Ornamental Nursery, Elmhurst, Ill., announces H. R. Lawrence, proprietor, is discontinuing its general line of perennial plants and shrubs and devoting itself exclusively to peonies and French hybrid lilacs.

THE third of a series of meetings arranged by the agricultural agents of Passaic, Bergen and Essex counties, N. J., for the benefit of the nurserymen of these three counties was held at Hackensack January 25. W. F. Knowles, of the state college of agriculture, New Brunswick, spoke on "Business Practices."



New Decorative Floor Display Rack
30 inches wide, 15 inches deep,
55 inches high.

Sell Vaughan's Seeds WITHOUT COST TO YOU

NOT **On Sale at Every Corner**
Quality seeds, different from those on sale at every other store in your community, give you prestige and attract discriminating customers, who will also buy shrubs and other nursery stock.

Vaughan's Seeds are known to you; and our modern, decorative display racks and advertising materials are especially designed to fit the garden shop. No nurseryman should overlook this opportunity to share in a business which really belongs to him. Thousands are successful at it.

Sign the contract below and, if you are firm, of established credit, an assortment of Vaughan's Seeds will come to you without a cent paid until the seeds are sold. **Retain 40 per cent of the sales as your profit**, sending the rest to us. An early and increased demand is expected. **Act now!**

VAUGHAN'S SEED STORE
Commission Box Department—A.N. 40.
601 W. Jackson Blvd., Chicago, Ill.

Please forward in due season, one assortment of garden and flower seeds for me to sell on commission for the season of 1940. I agree to display this assortment and the advertising material sent with it, in my store, and to sell all the seeds possible. On or after July 1, when requested by you, I agree to return the unsold seeds by parcel post, and to pay, upon receipt of statement, the retail value of the seeds sold by me, less 40% commission. Unsold seeds returned by me are to be credited, and only the amount of seeds actually sold, less 40% commission, is to be billed. I further agree, when season is ended, to destroy the display rack furnished by you with the goods.

Rack as illustrated.

Flower seeds only, check here.

TRADE REFERENCES:

Your Firm Name.....

Your Address.....

Sign Here

194...

OBITUARY.

Wilber G. Siebenthaler.

Wilber G. Siebenthaler, president of the Siebenthaler Co., Dayton, O., died February 10 after suffering a stroke February 7. He had been ill since May of last year, but had recently shown signs of improvement in his health. He was 48 years of age.

Born in Dayton, he was stricken with infantile paralysis at the age of



Wilber G. Siebenthaler.

18 months. Although crippled, he grew up to take part in business and social activities. He had been president of the Siebenthaler Co. since its incorporation in 1919 and served as executor of the estate from 1911, when the father, John Siebenthaler, died. The nursery firm was founded in 1870 by the father, and since the company's incorporation it has been operated by the five children.

Mr. Siebenthaler was a past president of the Lions' Club, treasurer of the Harrison township board of education for eighteen years, and a member of the Knights of Pythias. At the time of his death he was secretary of the Ohio Nurserymen's Association and a former president.

Surviving are the widow, Lucille; three brothers, Clarence, John and George, and a sister, Mrs. Howard Wilson, all of Dayton.

Funeral services were held Febru-

ary 12. Burial was in Shiloh cemetery.

Dr. W. M. Moberly.

Dr. William M. Moberly, owner of the Bentonville Wholesale Nursery Co., Bentonville, Ark., died January 30, aged 67.

He was born December 16, 1872, near Sulphur Springs, Ark. He studied medicine and was licensed to practice in Missouri. He returned to Arkansas twenty-seven years ago and became active in farm organizations. About seventeen years ago he established a nursery at Sulphur Springs, and about eight years ago he moved to Bentonville.

He was one of the organizers of the Arkansas State Nurserymen's Association and for several years was either secretary or president of the organization. At the time of his death he was a member of the Arkansas state plant board.

Surviving are his widow, two daughters and four sons, John, Ted, William and Ray, all of whom reside at Bentonville.

James McHutchison.

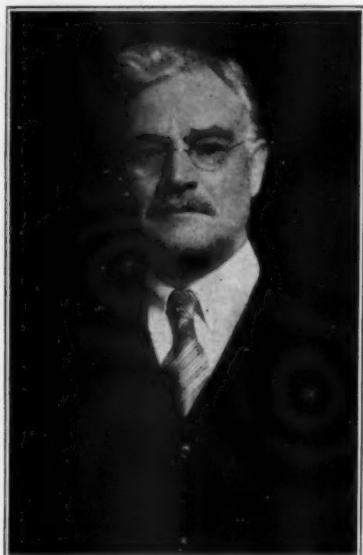
James McHutchison, president of McHutchison & Co., New York city, who did much to advance horticulture in this country during the past forty years, died at his home, at 44 Danforth avenue, Jersey City, N. J., February 2, after a heart attack.

Mr. McHutchison was born in Ballarat, Australia, in 1873, and all his life has been associated with the horticultural profession. He was a past president of the Society of American Florists and organized the

AMERICAN NURSERYMAN

system of arbitration in that society.

He was the man of whom it was written a few years ago that he was the "bad boy who wouldn't go to school." But he worked and read incessantly and educated himself in the things that interested him. He served his apprenticeship in the florists' business at Melbourne, Australia, and later went to New Zealand, where he worked as a gardener on a large estate. Later he traveled



James McHutchison.

through Germany, Belgium, France and other countries, finally going to England, where he worked at the famous establishment of Thomas Rochfords, then probably the largest grower of decorative plants.

Mr. McHutchison came to America in 1896 independently, and with-



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86 Years in

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| squamata..... | 2.75 | 25.00 |
| squamata argentea variegata..... | 2.75 | 25.00 |
| squamata Meyeri..... | 2.75 | 25.00 |
| virginiana Arkansana..... | 2.75 | 25.00 |
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| virginiana glauca..... | 2.75 | 25.00 |
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| virginiana Keteleeri..... | 2.75 | 25.00 |
| virginiana lutea..... | 2.75 | 25.00 |
| virginiana Schottii..... | 2.75 | 25.00 |
| virginiana pendula..... | 2.75 | 25.00 |
| virginiana pyramidiformis..... | 2.75 | 25.00 |
| Magnolia Alexandrina..... | 3.25 | 30.00 |
| Halliana stellata..... | 3.25 | 30.00 |
| Lemnai..... | 3.75 | 35.00 |
| Soulangiana..... | 3.25 | 30.00 |
| Soulangiana nigra..... | 3.25 | 30.00 |
| Tilia cordata Douglassii spiralis..... | 2.00 | 20.00 |
| occidentalis elegansissima..... | 2.25 | 22.00 |
| occidentalis lutes Goo. Peabody..... | 2.25 | 22.00 |
| occidentalis lutes R. & A. Type..... | 2.25 | 22.00 |
| occidentalis nigra..... | 2.25 | 22.00 |
| occidentalis Rosenthali..... | 2.25 | 22.00 |
| occidentalis Wilmotiana (sibirica)..... | 2.25 | 22.00 |
| orientalis amurensis..... | 2.00 | 18.00 |
| orientalis conspicua..... | 2.00 | 18.00 |
| orientalis elegansissima..... | 2.00 | 18.00 |
| Tsuga canadensis Sargentii..... | 2.75 | 25.00 |

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out a single friend or relative in this country. He proceeded to travel the United States from Maine to California, and in 1902 he founded his own business under the name of McHutchison & Co. This business has grown to be one of the largest of its kind, distributing commercial horticultural raw materials of domestic and foreign origin.

In the course of his many years of association with the horticultural trade, he came to be known as one of the leaders in the industry, not only from the standpoint of his own business, but for his activities in the trade for the benefit of all concerned.

He leaves his widow, Grace E. McHutchison; two sons, Edgar and Robert, and two daughters, Grace Shaffer and Edith McHutchison.

He was a member of the Masonic order and was actively associated with St. John's Episcopal Church.

Charles Stevens Wassum.

Charles Stevens Wassum, Marion, Ga., died January 21 at the age of 64.

Seventeen years ago Mr. Wassum first began to sell boxwood and old millstones and rapidly developed a northern trade, particularly around New York. Within a few years he was operating a New York office and warehouses and had become an exhibitor at the New York flower show. His early business was done with shrubs which he purchased from old southern plantations and transplanted. At the time of his death, he was operating two large places under the name of the Royal Oak Boxwood Farm at Marion and at Atkins. Surviving are his widow, four daughters and one son.

J. H. Prost.

J. H. Prost, Chicago's first city forester and a landscape architect for many years, died February 12. He was 61 years old and lived in Evanston, Ill. During the World war he was garden director for the state council for defense. In recent years he had conducted a private real estate and landscaping business. Surviving are his widow, a son, five brothers and two sisters.

Worth Spray Tetrick.

Succumbing to a heart attack, Worth Spray Tetrick, Enterprise, W. Va., one of the founders of the West Virginia Nurserymen's Association [Concluded on page 29.]

SEEDS 1939 CROP

NOW READY FOR DELIVERY

Prices F. o. b. New York

| | 14 lb. | 1 lb. |
|--|--------|--------|
| <i>Abies arizonica</i> , Cork Fir..... | \$1.90 | \$0.39 |
| " Fraser Fir..... | 4.25 | 4.25 |
| <i>Acer platanoides</i> , Norway Maple..... | .40 | 1.25 |
| " spicatum, Mountain Maple..... | 1.00 | 3.50 |
| <i>Aristolochia</i> tomentosa..... | .55 | 1.85 |
| <i>Benzoin</i> sativale, Spicebush..... | .45 | 1.50 |
| <i>Berberis thunbergii</i> , Japanese Barberry, c. s. | .75 | 2.50 |
| " thunbergii atropurpurea, c. s. | 5.00 | 16.00 |
| <i>Betula nigra</i> , River Birch, c. s. | .50 | 1.80 |
| " papyrifera, Canoe Birch..... | .45 | 1.50 |
| <i>Bignonia</i> radicans, Trumpet Creeper..... | .65 | 2.25 |
| <i>Calyanthus floridus</i> , C. o. m. o. n. | .50 | 1.65 |
| <i>Swertia</i> rubra, Northern seed | .30 | .90 |
| <i>Camellia</i> japonica, Western Catalpa..... | .35 | 1.10 |
| <i>Celtis</i> mississippiensis, Sugarberry, d. b. | .55 | 1.80 |
| " occidentalis, Hackberry, d. b. | .45 | 1.60 |
| <i>Cercis</i> canadensis, American Redbud..... | .55 | 1.85 |
| <i>Clematis</i> texensis, Scarlet Clematis, c. s., ¼ oz. | .75 | ... |
| <i>Cornus</i> alternifolia, Pagoda Dogwood, c. s. | .60 | 2.10 |
| " canadensis, Bunchberry, d. b. | 1.05 | 3.75 |
| " stolonifera, Red Osier Dogwood, c. s. | .60 | 2.10 |
| <i>Corylus</i> americana, American Hazelnut..... | ... | .85 |
| <i>Crataegus</i> oxyacantha, English Hawthorn, c. s. | .35 | 1.20 |
| <i>Cupressus</i> arizonica, Arizona Cypress (genuine) | .90 | 3.25 |
| <i>Cydonia</i> japonica, Flowering Quince, c. s. | .90 | 3.25 |
| <i>Daphne</i> mezereum, February Daphne | 1.25 | 4.00 |
| <i>Fraxinus</i> americana, White Ash, lanceolata, Green Ash..... | .25 | .75 |
| <i>Halesia</i> tetrapetala, Great Silverbell | .35 | 1.25 |
| <i>Juniperus</i> virginiana, Red Cedar, d. b., Northern | .45 | 1.50 |
| " virginiana, Red Cedar, d. b., Platte River | .35 | 1.25 |
| <i>Kalmia</i> angustifolia, Lambkill, c. s., ox. \$1.50 | ... | ... |
| <i>Laurocerasus</i> caroliniana, Carolina Cherry-laurel | .35 | 1.25 |
| <i>Liliodendron tulipifera</i> , Tulip Tree | .25 | .75 |
| <i>Magnolia</i> fraseri, Fraser Magnolia, c. s. | 1.40 | 5.00 |
| " kobus, Japanese Magnolia | 2.50 | 8.50 |
| " tripetala, Umbrella Magnolia | .50 | 1.75 |
| <i>Malus</i> baccata, Siberian Crab, c. s., coronaria, Wild Sweet Crab, c. s. | 1.70 | 5.75 |
| <i>Morus</i> rubra, Red Mulberry, c. s. | 1.25 | 4.50 |
| <i>Picea</i> excelsa, Norway Spruce | .55 | 1.75 |
| " glauca albertiana, Black Hills Spruce | 1.25 | 4.50 |
| " pungens, Colorado Spruce | 1.25 | 4.50 |
| <i>Pinus</i> attenuata, Knobcone Pine | 1.55 | 5.50 |
| " caribea, Slash Pine | .75 | 2.50 |
| " Jeffrey, Jeffrey Pine | .90 | 3.25 |
| " lambertiana, Sugar Pine | .70 | 2.40 |
| " montana, mugilus | .70 | 2.25 |
| " ponderosa, Western Yellow Pine | .50 | 1.65 |
| " rotundata, Red Pine | 1.00 | 3.50 |
| " rigida, Pitch Pine | .70 | 2.25 |
| " strobus, White Pine | .55 | 1.75 |
| " virginiana, Scrub Pine | 1.65 | 6.00 |
| <i>Populus</i> nigra italica, Lombardy Poplar | .45 | 1.25 |
| " tremula, European Aspen | .55 | 1.75 |
| <i>Prunus</i> besseyi, Bessey Cherry, c. s. | .50 | 1.50 |
| " cerasifera, Myrobalan Plum | .25 | .75 |
| " pumila, Sand Cherry, c. s. | .65 | 2.25 |
| " virginiana, Common Choke-cherry, c. s. | .55 | 1.85 |
| <i>Rhamnus</i> frangula, Glossy Buckthorn, c. s. | .50 | 1.45 |
| <i>Rhododendron</i> catawbiense, Catawba Rhododendron, c. s., ox. \$6.00 | ... | ... |
| " Cunninghamii, c. s., ½ oz. \$1.00 | ... | ... |
| <i>Rosa</i> blanda, Meadow Rose, dried hips | .55 | 1.75 |
| " multiflora Japonica, thorny, c. s. | .25 | .80 |
| " multiflora Japonica, thornless, c. s. | .40 | 1.30 |
| <i>Sambucus</i> caerulea, Blueberry Elder, d. b. | .90 | 3.25 |
| <i>Scladopeltis</i> verticillata, Umbrella Pine | 1.00 | 3.50 |
| <i>Sequoia</i> sempervirens, Redwood, Genuine Calif. seed | 1.00 | 3.50 |
| <i>Taxus</i> baccata, English Yew | .60 | 1.75 |
| " cuspidata, Japanese Yew | .55 | 1.75 |
| <i>Thuja</i> orientalis aurea conspicua, Goldspire Arbor-vite | .90 | 3.00 |
| <i>Viburnum</i> cassinoides, Withe-rod, d. b. | .55 | 1.70 |

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AMERICAN ASSOCIATION OF NURSERYMEN

RICHARD P. WHITE, EXECUTIVE SECRETARY
636 SOUTHERN BLDG., WASHINGTON, D. C.

PLAN NEW YORK EVENT.

During the New England convention, the committee on local arrangements for the sixty-fifth annual convention of the American Association of Nurserymen met at the Hotel Taft, New Haven, Conn., January 30, to discuss in general outline the entertainment events. The convention is to take place July 21 to 26 at the Hotel Pennsylvania, New York city.

Those present at the meeting included C. W. M. Hess, Mountain View, N. J., chairman of the arrangements committee; Frank S. LaBar, Stroudsburg, Pa., executive committee advisor, and the following committee members: Eugene Muller, Norristown, Pa.; Lester W. Needham, Springfield, Mass.; Howard C. Taylor, Tarrytown, N. Y.; Louis Vanderbrook, Manchester, Conn.; V. J. Vanicek, Newport, R. I., and Isaac L. Williams, Exeter, N. H. Paul V. Fortmiller attended in place of Charles H. Perkins, Newark, N. Y., and Roland de Wilde, Jr., Shiloh, N. J., substituted for C. Courtney Seabrook, Bridgeton, N. J. Other members of the committee are L. P. Akenhead, Newark, N. Y.; George E. Hart, Lynbrook, L. I., N. Y.; Clinton D. Wallace, South Portland, Me., and Fred P. Herbst, New York city, treasurer.

One of the outstanding features planned is a garden planting, an "outdoor living room," 12x30 feet, in a portion of the lobby of the Pennsylvania hotel. Inasmuch as it is estimated that from 25,000 to 30,000 persons pass through this lobby in a single day, the publicity value of such an exhibit can be appreciated.

Entertainment plans include a visit to Radio City, Sunday, July 20; a visit to the world's fair, July 22; an all-day boat trip up the Hudson river to West Point, July 23, and the annual banquet, July 24, at which George T. Aiken, governor of Vermont and a nurseryman, is expected to be the speaker. Other features and details are to be worked out by the committee.

For the women there will be sev-

eral events of additional interest, trips back scenes at the Pennsylvania hotel and at Macy's department store and visits to a radio broadcast and to an ocean liner if one is in port.

JAP BEETLE CONFERENCE.

A considerable attendance of the trade is expected to appear at the conference on the Japanese beetle quarantine situation, called by the chief of the bureau of entomology and plant quarantine, at 10 a. m., February 27, in the auditorium of the United States National Museum, Tenth street and Constitution avenue, S. W., Washington, D. C. A number of state associations last month voted to send representatives to the conference in support of a continuation of the federal quarantine.

Under the auspices of the American Association of Nurserymen, a pre-conference meeting has been arranged for interested nurserymen at the Hotel Raleigh, Twelfth and Pennsylvania avenues, Washington, D. C., at 2 p. m. February 26. Expressions of opinion will be heard in order to determine the nature of the statement of the A. A. N. to be presented at the conference. Members interested are invited to attend or to write their views if unable to be present. Secretaries of state associations which have taken official action are requested to indicate such

action to the A. A. N. Washington office.

AGRICULTURE SUPPLY BILL.

Reporting the annual supply bill for the Department of Agriculture, the House appropriations' committee cut the appropriation to a total of \$659,399,256, which was \$129,530,263 under budget recommendations, but not so much beneath the appropriation for the current year.

The largest cut was through the rejection of application for \$500,000 to begin the transfer of the Arlington experimental farm from Virginia to Maryland, the committee holding that authorization for such a change should come from Congress.

Items for the bureau of plant industry suffered only slight reductions from the current year's appropriations, except in the case of plant exploration and introduction, for which the appropriation of \$200,000 represented a cut of \$47,602 from the current year and \$25,353 from the budget. Items for the bureau of entomology and plant quarantine were the same for Japanese beetle control, \$395,000; gypsy and brown-tail moth control, \$375,000; phony peach and peach mosaic eradication, \$89,800; insect pest survey, \$154,790; foreign plant quarantines, \$680,000, and transit inspection, \$44,059.

Items for the latter bureau cut from the current year's appropriation were fruit insects control, \$166,280, reduced \$15,916 from the current year's appropriation; Dutch elm disease eradication, \$400,000, reduced \$100,000; forest insects control, \$200,000, reduced \$53,100; truck crop and garden insects, \$366,580,

ROSES - CALIFORNIA GROWN

H. T. - H. P. - Polyantha
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| Birch | Maples |
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SUPERIOR
Hardy Ornamentals**BURR'S QUALITY****BERBERIS THUNBERGII**

(Japanese Barberry)

| SEEDLINGS (1-yr.) | Per 1000 | Per 10.000 |
|-------------------|----------|------------|
| 9 to 12 ins..... | \$9.00 | \$70.00 |
| 6 to 9 ins..... | 7.00 | 50.00 |
| 3 to 6 ins..... | 5.00 | 35.00 |

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KOSTER COMPANY, INC.**CORNUS FLORIDA RUBRA**

12 to 24 ins., 1-yr. field, tpi. \$225.00 per 1000

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6 to 8 ins., 1-yr. tpi. beds 100.00 per 1000

8 to 10 ins., 2-yr. tpi. field 150.00 per 1000

BRIDGETON, N.J. Write for catalogue.

reduced \$15,000; European corn borer control, \$27,939, reduced \$5,000; barberry eradication, \$150,000, reduced \$25,000; insecticide and fungicide investigations, \$125,000, reduced \$9,984. Control investigations received an appropriation of \$72,518, an increase of \$5,000.

"GREENS" WORK SEASONAL.

The harvesting and preparing of undried evergreens for decorative purposes and the processing of coniferous evergreens and undried holly were found to be seasonal industries and therefore partially exempt from the hours limitation of the fair labor standards act, the wage and hour division announced in a decision handed down this month.

The finding was made by Harold Stein, assistant director of the hearings branch of the division, who presided at a hearing on the subject November 29, 1939. If no petitions for review of this finding are made within fifteen days, this exemption shall become then effective.

As seasonal industries, the harvesting and preparing of undried evergreens and the processing of coniferous evergreens and undried holly may be carried on for twelve hours in any workday, or for fifty-six hours in any work week, as the case may be, for a period or periods aggregating fourteen work weeks in any calendar year, before the overtime provisions requiring payment of at least time and one-half the regular rate of pay become effective.

Certain operations in the preparation and marketing of evergreens are found to be not of a seasonal nature. They are the harvesting and preparing of evergreen huckleberry and evergreen ferns in the state of Washington, and the preparing and processing of dried decorative greens into grave wreaths. No finding was made in the matter of jobbing and central market distribution of evergreens, or in the matter of undried commercial greens, other than evergreens and deciduous holly, because no pertinent evidence on these matters was presented at the hearing.

J. P. FOSTER, for a number of years connected with the Willis Nursery Co. and more recently located in the Chicago area, has joined the organization of the Mount Arbor Nurseries, Shenandoah, Ia.

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Low Spring Prices

Order now before prices advance.

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| Apples | By thousand |
| 1/2 ins. up..... | 13 1/2¢ |
| 1/2 to 1 1/2 ins..... | 10¢ |
| 1 1/2 to 2 1/2 ins..... | 7 1/2¢ |
| 2 1/2 to 3 1/2 ins..... | 5¢ |
| Peaches | By thousand |
| 1/2 ins. up..... | 9 1/2¢ |
| 1 1/2 to 2 1/2 ins..... | 7 1/2¢ |
| 2 1/2 to 3 1/2 ins..... | 5¢ |
| Pears | By hundred |
| 1/2 ins. up..... | 22¢ |
| 1 1/2 to 2 1/2 ins..... | 20¢ |
| 2 1/2 to 3 1/2 ins..... | 18¢ |
| Cherries, Sweet | By hundred |
| 1/2 to 1 1/2 ins..... | 20¢ |
| 1 1/2 to 2 1/2 ins..... | 18¢ |
| Cherries, Sour | By hundred |
| 1/2 to 1 1/2 ins..... | 18¢ |
| 1 1/2 to 2 1/2 ins..... | 15¢ |

Send for full list of varieties.

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Prices right for top quality stock.

J. GERAGHTY NURSERY, Geneva, N. Y.

Letters to the Editor

SOCIAL SECURITY.

The remarks of Mr. Hemming in the December 15 issue on social security and the industrial dignity of the nursery industry prove him a thoughtful and just man. This industry certainly owes its employees a number of improvements and owes itself a greater measure of coöperation. But I would hesitate to take the step of separating this from the other farming industries.

Make no mistake, the farmer has plenty of industrial dignity. There are many kinds of farmers, but in every group there are organizations devotedly working for the welfare of that group. It is being realized, belatedly, that of all the industries, the official voice of agriculture speaks the loudest, is the strongest and is the fairest to others.

It is also becoming clearer that "security" is relative, and the security of all of us depends upon the measure of statesmanship of our industrial associations, our unions, etc. I would rather associate with the farmer groups, embracing federal social security and other insurance plans when they do, and meantime assuming responsibility toward employees as they do, than plunge into the complex and possibly disastrous industrial war that seems the lot of city business.

This is partly a question of size. The average nursery is little larger as a business than the average farm. Suppose one of the powerful labor groups should move in on us, treating us as they treat most industry. What would the chambers of commerce do for us? What would the banks do? What would the government do? Our large units would be ruined and the smallest would, literally, sneak back "behind the skirts of the farmer."

The opportunity and duty facing the leadership of the nursery industry is to weld it together without destroying its human qualities. Many problems must be solved, among them especially that of seasonal employment. These problems should not be thrown in the lap of government without an effort on our part, for this is certain—if the government gets too many such problems we

shall all fail together. It is the small independent human industries such as ours that will survive and make the country and democracy survive.

J. Franklin Styer.

CHINESE ELM AS HEDGE.

I noted with interest the picture and article on Chinese elm as a hedge in your January 1 issue. From snapshots I am sending you of Chinese elm hedges at my nursery you will see how it does here at Larned, Kan.

The hedge in front of my house is 2 years old and has been kept one foot high. Other views show a 4-year-old Chinese elm hedge, planted ten inches apart in a double row and grown to six feet high the first year from 24-inch seedlings and maintained at that height thereafter. No water, other than rainfall, is necessary after the first year, even though our annual precipitation is only nineteen inches. I also have 4-year-old Chinese elm hedge that has been kept two feet high. H. D. Frizell.

MAILING PRICE LISTS.

In the January 1 issue in the editorial headed, "Your Help Needed," you warned about leaving copies of

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| de WILDE'S RHODO - LAKE NURSERIES SHILOH, N. J. RHODODENDRONS, AZALEAS AND OTHER ERICACEOUS PLANTS |
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| TAXUS Cuspidata Capitata 1½ to 12 feet. Best available. Carloads or truckloads only. VISSEER'S NURSERIES Springfield Gardens, L. I., N. Y. |
|---|

this magazine in public places so it may be read by the public.

I think that certain wholesale growers should be taken to task on how they mail their price lists. I have received a number of them printed on folders held together by a one-cent stamp. One received recently exasperated me. It was a 4-page folder, folded once, with a one-cent stamp on the middle of a page, and printed on the cheapest paper. The prices in 100 lots were readable at a glance by anyone coming close to it, and you might know what the prices were. He might say that postmasters have a right to inspect such mail anyhow. Yes, but many persons handle this mail besides postmasters before it reaches its destination. And they talk to other people.

I at first thought it was some cheap dodger that I didn't want, and was going to throw it in the street, when I took a second glance at it. I took it home and put it in the fire. I would not buy from anyone who would mail me a list like that. It is my opinion that if a wholesaler cannot afford to mail his price list first-class, he at least should put it in an envelope.

William C. Harris.

BERBERIS THUNBERGII ATROPURPUREA Red-Leaved Japanese Barberry

Sturdy, two-year-old seedlings

| | Per 100 | Per 1000 |
|----------------------|---------|----------|
| 9 to 12 inches..... | \$3.50 | \$30.00 |
| 12 to 15 inches..... | 4.50 | 40.00 |
| 15 to 18 inches..... | 5.50 | 50.00 |

Prices on larger quantities will be furnished on application.

HENRY A. DREER, Inc.
1306 Spring Garden Street
Philadelphia, Pa.

| |
|---|
| 70th Anniversary Lake's Shenandoah Nurseries <i>"Growers of High Quality Stock"</i> A Large Stock of PHLOX—Field-grown—Twice Transplanted—Large Flowering, Leading Varieties of Special Merit at very attractive prices. <i>Write for our New Spring Bulletin</i> 1870 Shenandoah, Iowa 1940 |
|---|

MODERATE PRICES

RHODODENDRON HYBRIDS.
Grafted, hardy varieties only.

AZALEA KAEMPFERI HYBRIDS.
Named varieties, the hardiest of all Azaleas for landscape work.

KOSTER'S BLUE SPRUCE. Perfectly shaped; transplanted.

EUROPEAN BEECH, fine specimen. Also fastigiata, pendula, Riversii.

Ask for catalogue

BAGATELLE NURSERY

P. M. Koster, Mgr.

P. O. Huntington Station, L. I., N.Y.

SHADE TREES

| | Per 10 | Per 100 |
|--------------------------------------|---------|---------|
| Ash, American | \$10.00 | \$90.00 |
| 10 to 12 ft. | 15.00 | 140.00 |
| 2 to 2½-in. cal. | 15.00 | 140.00 |
| 2½ to 3-in. cal. | 20.00 | 185.00 |
| Elm, American | 6.50 | 60.00 |
| 10 to 12 ft. | 12.50 | 115.00 |
| 2 to 2½-in. cal. | 12.50 | 115.00 |
| 2½ to 3-in. cal. | 20.00 | 175.00 |
| Elm, Chinese | 10.00 | 95.00 |
| 10 to 12 ft. | 12.50 | 115.00 |
| Flowering Crabs (assorted varieties) | | |
| 3 to 4 ft. | 4.50 | 40.00 |
| 4 to 6 ft. | 6.00 | 50.00 |
| Maple, Norway | 10.00 | 90.00 |
| 1½ to 2-in. cal. | 12.50 | 115.00 |
| 2 to 2½-in. cal. | 17.50 | 165.00 |
| 2½ to 3-in. cal. | 22.50 | 200.00 |
| 3 to 4½-in. cal. | 30.00 | 275.00 |
| Oak, Pin | 15.00 | 150.00 |
| 1½ to 2-in. cal. | 20.00 | 185.00 |
| 2 to 2½-in. cal. | 20.00 | 185.00 |
| 2½ to 3-in. cal. | 30.00 | 275.00 |
| Poplar, Lombardy | 1.80 | 10.00 |
| 6 to 8 ft. | 2.00 | 18.00 |
| 8 to 10 ft. | 3.00 | 22.50 |
| 10 to 12 ft. | 4.50 | 35.00 |
| Specimen Apple Trees | 12.50 | 100.00 |
| Willow, Weeping | 6.00 | 50.00 |
| 8 to 10 ft. | 8.50 | 75.00 |

Waynesboro Nurseries, Inc., Waynesboro, Va.

BOBBINK & ATKINS

Nurserymen since 1898

Rutherford, New Jersey

Send for a copy of our
1940 Wholesale
Catalogue.

Use printed stationery, please.

COLLECTED RHODODENDRONS

Catawbiense, Maximum

KALMIAS

ANDREW CROSS Ripley, W. Va.

NORTHERN COLLECTED EVERGREENS

Hardy, well rooted. Abies balsamea,
Thuja occidentalis, *Tsuga canadensis*.

Priced per 1000. Cash.
2 to 6 ins. \$5.00 9 to 12 ins. \$12.00
6 to 9 ins. \$9.00 12 to 18 ins. \$20.00

Ferns, plants and native orchids.

WILLIAM CROSBY HORSFORD, Charlotte, Vt.

PAINESVILLE SCHOOL

Program of a 2-day school for nurserymen and landscape gardeners, February 22 and 23, at the federal building, Painesville, O., is as follows:

FEBRUARY 22.

"Experimental Work in Ornamental Plants at Ohio State University," (Fertilization, Root Distribution, Outdoor Rose Production, Synthetic Growth Substances, Larvacide, New Plants), by L. C. Chadwick, Ohio State University.

"Ohio Nursery License Law and Japanese Beetle Program," by John Baringer, chief nursery inspector, Columbus.

"Program for Prevention and Control of Injurious Insects of Nursery Stock," by J. S. Houser, Ohio agricultural experiment station, Wooster.

"A Soil-Improvement Program for Nurserymen," by L. D. Bauer, Ohio State University.

"Program for Prevention and Control of Diseases of Nursery Stock," by Paul E. Tilford, Ohio agricultural experiment station, Wooster.

Evening program to be arranged by Lake County Nurserymen's Association.

FEBRUARY 23.

"Selection of Evergreens," by L. C. Chadwick.

"Landscape Practices Up-to-date," by Thomas Baird, Cornell University, Ithaca, N. Y.

"Cooperation among Nurserymen," by F. G. Haskins, county agricultural agent, Painesville.

"Making Sales Wisely," by L. C. Chadwick.

"Sales Promotion," by N. M. Massey, representative of Coca-Cola Co., Mentor, O.

OHIO NOTES.

Paul Schumacher, of Call's Nursery, Perry, O., is back home after spending a week in Texas.

The Cole Nursery Co., Painesville, O., finds that its new introduction, the hardy fuchsia, Scarlet Beauty, Fuchsia Riccartoni, is being taken with much enthusiasm by the pre-season trade. The company has 100,000 plants ready for this season.

February 6, seventy-five fruit and vegetable growers of Lake county met at the agricultural extension office for a one-day school on the new developments in fruit and vegetable insect and disease control. The school was led by F. G. Haskins, county agricultural agent, and the guest speakers were Dr. T. H. Parks, extension entomologist, and Dr. C. C. Allison, extension plant pathologist.

Business, previously slow, showed a pickup early this month in the Painesville area. It is much better than a year ago at the same time.

D. R. D.

We offer the following grafted plants, shipped from 2½-inch pots on or about May 1, 1940

JUNIPERUS

| | Per 100 | Per 1000 |
|----------------------------|---------|----------|
| chinensis columnaris | \$22.50 | \$200.00 |
| mascula | 22.50 | 200.00 |
| Pfitzeriana | 22.50 | 200.00 |
| Pfitzeriana Kallay's | | |
| compacta | 35.00 | 300.00 |
| pyramidalis | 22.50 | 200.00 |
| scopulorum Chandler's blue | 22.50 | 200.00 |
| squamata Meyeri | 22.50 | 200.00 |
| virginiana Burkii | 22.50 | 200.00 |
| Canariensis | 22.50 | 200.00 |
| Canariensis Kallay's | 22.50 | 200.00 |
| elegantissima | 22.50 | 200.00 |
| glauca | 22.50 | 200.00 |
| globosa | 22.50 | 200.00 |
| Keteleeri | 22.50 | 200.00 |
| pendula | 22.50 | 200.00 |
| Schottii | 22.50 | 200.00 |

The following are branched bench grafts on heavy understock, shipped with moss balls about June 15 after the new growth has hardened in:
SIZE: 8 to 12 ins. Per 100 Per 1000

| | Per 100 | Per 1000 |
|------------|---------|----------|
| Kosteriana | \$30.00 | \$250.00 |
| Moerheimii | 35.00 | 300.00 |

THUJA

| | Per 100 | Per 1000 |
|----------------------------------|---------|----------|
| occidentalis Columbia | \$17.50 | \$150.00 |
| elegantissima | 17.50 | 150.00 |
| lutea | 17.50 | 150.00 |
| pyramidalis | 17.50 | 150.00 |
| spicata | 17.50 | 150.00 |
| orientalis compacta, 6 to 8 ins. | 17.50 | 150.00 |
| Kallay's golden, 8 to 12 ins. | 17.50 | 150.00 |

The Kallay Brothers Co.
Painesville, Ohio

GREENING NURSERIES

Monroe, Michigan

Washington-grown — ROSES —

Pin Oaks — Sugar Maples
Apples — Pears
Shrubs, etc.

Write for Surplus List

Old English

BOXWOOD

Wholesale

10 ins. and up — Any quantity
BOXWOOD GARDENS

Mrs. R. P. Royer, High Point, N. C.

WILLIS NURSERY CO.

Wholesale Nurserymen

Write for price list.

Complete assortment. Low prices.

OTTAWA - - - KANSAS

Special Prices on:
Platanoides-Norway Maples

| | Per 1000 |
|-----------------|----------|
| 6 to 12 inches | \$ 7.00 |
| 12 to 18 inches | 12.00 |
| 18 to 24 inches | 20.00 |
| 24 to 30 inches | 35.00 |
| 3 to 4 feet | 50.00 |

STATE ROAD NURSERY

State and Sprout Rd., R.F.D. No. 3, Media, Pa.

Meet at Memphis

Fruit Growers' Problems Prominent on Program of Annual Convention of Tennessee Nurserymen

Extremely cold weather, icy highways and a blanket of snow held down the attendance at the Tennessee State Nurserymen's Association convention to less than 100. When the meeting was called to order by A. J. Byrn, of Dickson, president, Thursday morning, January 25, only a handful of members were scattered through the assembly room, but others arrived throughout the day.

Held in the beautiful Peabody hotel, at Memphis, the meeting was unanimously termed the most enjoyable the association has held despite the cold and subnormal attendance.

To the fruit growers present, the thought expressed by L. A. Niven, horticultural editor of the *Progressive Farmer*, Memphis, was startlingly logical. In endeavoring to find a reason for the present unsold surpluses in peach, apple and pear trees and other non-citrus fruits in nurseries throughout the nation, Mr. Niven quoted statistics on the rise in citrus fruit consumption among the nation's public and then read parallel figures on the decline of the sales of non-citrus fruit. Since the sale of peach and apple trees is directly dependent upon the marketing of the peach and apple crop, Mr. Niven told his hearers that non-citrus trees were going unsold in commercial quantities because the fruit had been replaced in the nation's appetite by oranges, grapefruit, etc.

Groping for a reason for the present condition, he advanced intensified advertising of citrus fruits as the prime cause. "Peach and apple fruit men," he said, "have waited for the buying public to come to them. Who has ever seen an advertisement in a leading newspaper or national magazine painting the merits of a peach or apple? On the other hand, look at the times we turn through a magazine and find a glowing, full-page description of the Florida or California orange. They even broadcast it over the radio."

Summing up, Mr. Niven said that until fruit men meet this advertising attack peach and apple tree sales would likely continue to decline.

In the discussion that followed, it was brought out that a certain per-

centage of each sale by the California Citrus Fruit Growers' Association is set aside for advertising and that recently the Florida state legislature appropriated \$1,000,000 for the advancement of that state's citrus fruit industry.

R. H. Jones, of Nashville, who confessed that he was an authority on the subject because his father-in-law was a Florida citrus fruit grower, said that all was not well with the citrus growers, and that they also had their problems of marketing. Truckers, he said, were picking up second-grade fruit at the groves and dumping it on the market in competition with first-grade fruit, thus demoralizing prices.

Hon. Walter Chandler, mayor of Memphis, was termed by R. H. Jones "the first mayor who has ever appeared in all my years of convention-going. They usually are too busy and send some fellow from the waterworks department or maybe a clerk from the street commissioner's office."

Mayor Chandler expressed his appreciation for being invited to speak and voiced the opinion that the nursery industry was on the verge of a large increase in business. "In this time when our country is turning from the extremely practical to the aesthetic view of life, you nurserymen will find your proper niche."

He predicted that this change in view by the American people, a steadily increasing demand for beauty expressed by more numerous plantings, would result in nation-wide recognition of the nurseryman as an integral factor in the advance of culture.

At the conclusion of his talk, a motion was made and passed unanimously making Mayor Chandler an honorary member of the association.

A. J. Byrn, delivering the president's address, pleaded for closer supervision of nursery stock salesmen in Tennessee.

"If dressmakers, millinery shops, automobile manufacturers were as careless in selecting their representatives as some ornamental nursery growers, they would soon have to go out of business. Ornamental

growers should select honest salesmen who have a fair knowledge of plant materials and their uses in plantings. The creation of good landscape plantings is so contagious that they spread from home to home. When nurserymen get rid of unscrupulous fellows trying to do landscape work, the demand for ornamental plantings will greatly increase."

Discussing government competition, Mr. Byrn pointed out that "the government is becoming a serious competitor to nurserymen by having many millions of seedling trees grown in federal supervised nurseries.

"The government could contract the growing of this stock with nurserymen," he continued, "cheaper than it is being grown under federal supervision and with a fair profit for the nurseryman. Nurserymen should have this business. We should endorse the efforts of the American Association of Nurserymen to get the govern-

**The Best in Native
Nursery-Grown**

Rhododendrons

Kalmia Hemlocks

Azaleas and Pieris

LaBars' Rhododendron Nursery

STROUDSBURG, PA.

• **TAXUS •**
AZALEAS
RHODODENDRONS
ASK US ABOUT THEM
WYMAN'S
FRAMINGHAM NURSERIES
FRAMINGHAM MASSACHUSETTS

TREES

We have a fine assortment of excellent trees for Landscape, Parks or Street Planting.

Pin Oaks, Red Oaks, Honey Locusts
Sugar Maples, Sweet Gums
European Lindens, Hemlocks and
Pines

OUTPOST NURSERIES
Ridgefield, Conn.

Colorado - Grown

Chinese Elm, seedlings and transplants.

Caragana Arborescens, transplants only.

Now booking orders for spring shipment in combination carloads. Wholesale list on request.

Eastern representative

Ralph R. Coe

Box 253, Painesville, Ohio.

Swink Nursery Company

Box 330

Swink, Colorado

2-YEAR SEEDLINGS, straight and stocky, power dug with plenty of roots, larger sizes well branched. F.O.B. Fort Collins. Packing at cost.

HACKBERRY (C. occidentalis)

| From local seeds | Per 100 | Per 1000 |
|------------------|---------|----------|
| 18 to 24 ins. | \$2.00 | \$17.00 |
| 2 to 3 ft. | 2.50 | 22.50 |
| 3 to 4 ft. | 3.75 | 32.50 |

CARAGANA

RUSSIAN OLIVE

| Per 1000 | Per 1000 |
|--------------------|----------------------|
| 6 to 9 ins. \$4.00 | 12 to 18 ins. \$8.00 |
| 9 to 12 ins. 5.00 | 18 to 24 ins. 12.00 |
| 12 to 18 ins. 7.50 | 2 to 3 ft. 18.00 |
| 2 to 3 ft. 15.00 | 3 to 4 ft. 25.00 |

P. O. Box 363

RICHARDS' Fort Collins, Colo.

Boyd
NURSERY COMPANY

McMinnville
Tenn.

General line of Hardy Shrubs and Forest and Shade Tree Seedlings, specializing in lining-out stock.

Amour River North Privet
Red Bark Dogwood Witch Hazel
Cornus Canadensis, Redbud
Cornus Florida, White Dogwood
Black Walnut and Sweet Gum

Write for our wholesale price list.

Red Aronia
Black Aronia
Cornus paniculata
Crataegus Crus-galli
Rhodotypos kerrioides
Viburnum molle
Viburnum Opulus

2-year-old strong home-grown seedlings, 12 to 15-in. size.

Write for prices.

HINSDALE NURSERIES, Inc.
Hinsdale, Illinois

CHINESE ELM SEEDLINGS

Ulmus pumila, hardy northern strain, 2 to 4 ft. \$2.00 per 1000. Transplants, 8 ft. up, 1½ to 1¾-in. cal., \$35.00 per 100.

ULLRICH NURSERY, Box 158
Roswell, New Mexico

Hardy Amelia Cushion Mums

NOW READY—NOW READY
Pink, \$25.00 per 1000. Red, White and Bronze, \$35.00 per 1000.

YELLOW Cushion, \$50.00 per 1000.

100 at 1000 rates. Catalogue.

WONDERLAND NURSERIES
ELLERSON, VA.

ment to contract the growing of these seedlings with nurserymen."

He urged every nurseryman in the state to join the American Association of Nurserymen. "Threatened with high taxes and government competition in growing nursery stock, it seems to me we need to organize and pull together now more than ever before in our history."

A. N. Pratt, state horticulturist, Nashville, speaking on "Important Nursery Practices Often Overlooked," told the group that statistics showed that the number of bearing peach trees in the United States had declined by approximately one million for the past ten years. In spite of this decrease, he said, production of young trees in nurseries had continued on the same scale.

The horticulturist outlined a plan of peach orchard planting which he said had become popular in Michigan and sections of other states where it had been tried. A 45-acre orchard is used, he asserted, and trees are planted sixteen feet apart instead of the customary twenty-four. A portion of the orchard is removed at certain intervals and replanted. The result is a perpetually young orchard, producing better fruit for the orchardists and more tree sales for the nurseries.

A recreational tour of Memphis filled the program Thursday afternoon. Under the personal supervision of David Renfrow, superintendent of the Memphis park commission, and in a large bus furnished without charge by the city of Memphis, nurserymen viewed beautiful parks, large public buildings and fine residences, surrounding which were many well arranged landscape jobs.

Supplied with two members of the park system by Mr. Renfrow to answer questions, the Tennessee nurserymen were immensely enthusiastic over their enjoyment of the tour of the state's largest city. A stop at a park community center for hot coffee and cakes merited the unanimous approval of members stung by the subzero cold.

Much interest was manifested in the Pink Palace, now a museum and key factor in the Memphis system of parks, but constructed originally as a residence by Clarence Saunders, quondam chain grocery store king. Planned as a \$7,000,000 palace, the building was acquired by the city of

Pin Oaks — all sizes
Lonicera Fragrantissima
Large Hemlock

AND A
GENERAL LINE
OF STOCK
grown in the
Fertile Bluegrass Area

HILLENMEYER NURSERIES
Lexington, Ky.



Who offers the nursery trade of this country the greatest line of rare trees and shrubs?

Write for list 3940 and find out!
But use your business stationery, as post cards will be ignored.

W. B. CLARKE & CO.
San Jose, California

Special Rooted Cutting Offer of

Hardy Garden CHRYSANTHEMUMS
and the

New Hybrid Koreans

You Will Need These for Your Spring Trade

Write for Special Illustrated Trade Circular

BRISTOL NURSERIES, Inc.
BRISTOL, CONN.

Hybrid LILACS
(on their own roots)
for l. o. Also other l. o. items.
Ask for list.
THE COTTAGE GARDENS
R. I. W. Krik LANSING, MICH.

QUALITY PERENNIAL PLANTS

Specialties
Gypsophila Bristol Fairy and Dicentra Spectabilis.

Let us quote on your perennial needs.

PERENNIAL NURSERIES Painesville, O.
Alva H. Smith R.F.D. 2

HERBS

Pot-grown plants; over a hundred varieties.
Dried Herbs for Flavoring and Fragrances.

Other plants of unusual character and with the charm of old-time gardens.

New Catalogue sent on receipt of 10 cents.

WEATHERED OAK HERB FARM, INC.

Bradley Hills, Bethesda, Maryland

Memphis partially completed and with about \$3,000,000 spent, as an addition to the park system. The transaction was completed, a park official said, without charge to the city for the building. The city of Memphis bought several acres of land in the vicinity for a park, and the building was included free in the sale because of the prohibitive expense entailed in completing or tearing it down. Beautiful murals, inlay work, winding stairways and expensive workmanship attracted much attention. Fine taste exhibited throughout the building was noticed, especially in the extensive plantings around the palace.

The annual banquet was held Thursday evening in a dining room of the Peabody hotel. Following a bountiful meal, colored motion pictures of the convention of the American Association of Nurserymen, at Portland, Ore., last summer, were shown. Later the nurserymen were guests of the Peabody hotel in the attractive Skyway cabaret, where they danced to the music of Joe Venuti and his nationally known orchestra.

Dr. Brooks D. Drain, from the agricultural experiment station, Knoxville, opened the program Friday morning, January 26, with a most interesting discussion of fruit stocks.

Owen G. Wood, president of the American Association of Nurserymen, who arrived by plane Thursday night from Washington, discussed the various phases of the social security law as applied to the nursery business.

Several persons on the program failed to appear because of the inclement weather.

Mrs. William B. Fowler, chairman of the Memphis "city beautiful" commission, said that her organization was in the position of advertising and promoting the sale of the nurseryman's wares. Close coöperation, she said, had been the cause of happy results for both the nurserymen and her group; nursery stock had been sold, and correspondingly, the city beautified. She urged the creation of similar organizations in other cities.

At the business session closing the meeting, C. D. Cartwright, Memphis, was elected president, succeeding A. J. Byrn. J. N. Lyon, of the Forest Nursery Co., McMinnville, was elected vice-president, and G. M. Bentley, Knoxville, was reelected secretary-treasurer. Charles Morse, Chattanooga, was named a member of the

executive committee to serve with the officers, and three regional vice-presidents were elected to promote the association in the three divisions of the state: W. E. Bishop, Sevierville, east Tennessee; George Haley, Smithville, middle Tennessee, and Hubert Fisher, Germantown, west Tennessee.

Committees appointed by the president are: Auditing—Norman Nicholson, J. H. Bayer, J. C. Mosier. Resolutions—R. H. Jones, Miss E. B. Drake, Dr. Brooks D. Drain. Nominations—C. B. Howell, J. R. Boyd, David Edwards. Legislative—J. R. Boyd, E. N. Chittin, Charles Morse, J. H. Bayer, Lee McClain, A. J. Byrn, Hubert Fisher, Norman Nicholson, George Haley.

The Tennessee chapter of the American Association of Nurserymen met January 25 after the banquet. The meeting was called to order by R. H. Jones, Nashville, president, and the minutes of the preceding meeting, at Nashville, were read by Morris R. Cunningham, secretary.

It was voted that the chapter hold a summer meeting early in August at Monteagle, with the exact date and program to be selected by the president.

J. R. Boyd, Forest Nursery Co., McMinnville, was elected president; Morris R. Cunningham, Slatton Nursery Co., McMinnville, vice-president, and C. B. Howell, Howell Nurseries, Knoxville, secretary.

R. H. Jones, Jones Ornamental Nurseries, Nashville, was elected to a 2-year term as delegate to the na-

tional convention. F. C. Boyd, Boyd Nursery Co., McMinnville, has another year to serve as delegate. Lee McClain, Washington Heights Nurseries, Knoxville, was named alternate for Mr. Jones, and J. R. Boyd was elected alternate for his brother, F. C. Boyd.

RHODE ISLAND MEETING.

Kerran J. Murphy, East Providence, R. I., was elected president of the Rhode Island Nurserymen's Association at the annual meeting, held at the Providence-Biltmore hotel, Providence, February 7. He succeeds V. J. Vanicek, Newport, who conducted the day's sessions. Other officers elected were: Vice-president, Reiner Balk, Newport; secretary, John Brownell, Newport; treasurer, Hugo Key, Newport; executive committee: Hugo DeWildt, Greenwood; John Heller, Newport, and V. J. Vanicek.

There was a good attendance. Plans were discussed for an intensive membership drive, in an effort to secure the enrollment of every eligible person in the state.

After a morning session devoted to the annual address of the retiring president and reports of officers and committees, a luncheon was served, at which George B. Beane, state registrar of motor vehicles, was the speaker. Past President Charles H.

EVERGREENS

1000 assorted two-year seedlings, \$6.00;
500, \$3.50; 250, \$2.00.

Select your assortment from the following list, in multiples of fifty.

| | |
|-----------------------------|--------------------------|
| Colorado Blue Spruce | Norway Pine |
| White Spruce | Japanese Red Pine |
| Norway Spruce | Ponderosa Pine |
| Red Spruce | Pitch Pine |
| Balsam Fir | Jack Pine |
| | Mugho Pine |

Postage extra. Shipping weights 8 lbs., 5 lbs. and 3 lbs. Shipped in April, properly labeled and firmly packed in moss. Late orders should give second choice. Cash, no C.O.D.

BRADEN NURSERY, Gray, Maine

SPECIALS

Aralia Spinosa

Cornus Mas

Cotoneaster Apiculata

Rhamnus Chadwicki

Complete line of Arbor-vitæs, Grafted Junipers, Hemlocks and other fast moving Evergreens, Shrubs and Shade Trees.

Write for Spring list.

THE BERRYHILL NURSERY CO.

Box 696

Springfield, Ohio

70th Anniversary
Lake's Shenandoah Nurseries
"Growers of High Quality Stock"

A Large Stock of
Clematis paniculata, Hall's Japan,
Heckrottii and Scarlet Trumpet
Honeysuckle at very attractive prices.

Write for our New Spring Bulletin
1870 Shenandoah, Iowa **1940**

WANTED

1000 Malus coronaria, 2-4-5 ft.
1000 Malus floribunda, 3-4-5 ft.
1000 Malus ioensis, 2-4-5 ft.
1000 Crataegus coccinea, 2-4-5 ft.
1000 Crataegus cordata, 2-4-5 ft.
1000 Crataegus Oxyantha, 2-4-5 ft.
1000 Crataegus Crus-galli, 2-4-5 ft.
10000 Rosa setigera, 1½-2-3 ft.
10000 Rosa Wichurana, 2 yr. 1
7500 Rosa lucida, 1½-2-3 ft.
7500 Rosa humilis, 1½-2-3 ft.
1500 Quercus palustris, 3-4-5-6 ft.
1500 Quercus rubra, 3-4-5-6 ft.
1000 Quercus alba, 3-4-5-6 ft.
500 Quercus macrocarpa, 3-4-5-6 ft.
4500 Corylus americana, 1½-2-3-4 ft.
1000 Fraxinus nigra, 3-4-5-6 ft.
1000 Salix nigra, 3-4-5-6 ft.

Please send us current Trade List.

BELL NURSERY SERVICE
Whiting Indiana

Meetings in Northwest

WASHINGTON MEETING.

The midwinter meeting of the Washington State Nurserymen's Association was held January 30 at the Washington hotel, Seattle, with seventy-eight members in attendance.

After preliminary remarks, President W. L. Fulmer called upon Earl Hubbard for a talk on the functions of the Puget Sound Production Credit Association and how that association can assist the nurserymen. Benjamin Smith, representing the Associated Farmers of Washington, Inc., assured 100 per cent coöperation to members in any labor troubles.

The high lights of the midwinter meeting of the Oregon Association of Nurserymen were given by Fred Borsch, president of that group. Dr. J. H. Hanley, of the University of Washington, Seattle, spoke on the ways in which nurserymen and the University of Washington Arboretum can benefit each other.

The coöperative work of the Washington State Holly Growers' Association was discussed by P. Peyran, Gig Harbor, Wash., who specializes in holly growing. J. S. Wieman, superintendent of the nursery service of the Oregon department of agriculture, followed with a brief talk on the importance of the nursery industry to the northwest.

A report of the meeting of the Western Plant Board was given by Frank McKennon, chief of the bureau of plant industry of Oregon. J. I. Griner, supervisor of horticulture for the state of Washington, related how the plant board, composed of all states west of the Rockies, the Hawaiian islands, Mexico and Canadian cities, started in 1925 to get more uniformity in handling nursery stock and to see that no more pests and diseases were introduced.

Dr. E. P. Breakey, entomologist of the western Washington experiment station, Puyallup, presented some control measures for pests on ornamentals. H. J. Reynolds, state nursery inspector, Sumner, followed with a request for members' help in making up a list of different types of shrubs.

In a discussion of the relations between the landscape architect and

the nurseryman, Noble Hoggson urged nurserymen to grow and publicize new and interesting varieties of the flowering broad-leaved evergreens, instead of wasting land, time and money on old-fashioned plants. "You have your work to do," he said, "in stabilizing the industry, helping educate the public and supplying the best stock for the best prices. We have ours to do in our comparatively isolated cases of designing property to best use your stock. We depend on you for our colors for the pictures which we have been trained to paint."

Carl Bauer, assistant in soils at the western Washington experiment station, talked on soil conditions. W. D. Courtney, assistant nematologist of the bureau of plant industry of the United States Department of Agriculture, Sumner, closed the speakers' program with a talk on the study of nematode diseases of narcissus bulbs.

A resolution was adopted that the Washington State Nurserymen's Association strongly protest the removal

of the present Japanese beetle quarantine.

A. P. Carroll, manager of the Olympicans, Inc., an organization aiming to promote the planting of 1,000,000 rhododendrons in the state of Washington through the clubs and organizations of the state, said that on Washington's birthday there would be a Washington rhododendron congress at the Olympic hotel, Seattle. The organization is noncommercial, nonsectarian and nonprofit and is almost 7 years old.

At the banquet, motion pictures in color of European flower shows and local fields of nursery stock were shown by Walter R. Dimm, Portland, Ore. Avery H. Steinmetz, A. A. N. vice-president, also of Portland, gave some timely remarks. Lloyd Spencer, well known toastmaster, entranced the members for 60-odd minutes with his clever stories and remarks.

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1-YR. CHINESE ELM SEEDLINGS
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18 to 24 ins., 2 to 3 ft., 3 to 4 ft., 4 to 5 ft.
Now booking orders for above strain of
CHINESE ELM SEED

WASHINGTON NURSERIES
Toppenish, Wash.

door temperature being 62 degrees, no doubt interfered with attendance.

It was the unanimous opinion of the members that the public was never so garden-conscious as now. "Smiling Dan" O'Donnell, state nursery inspector, remarked his office is constantly answering queries for betterment.

OREGON MEETING.

More than 100 nurserymen and state officials gathered at the Heathman hotel, Portland, January 24, for the midwinter meeting of the Oregon Association of Nurserymen.

The morning session was devoted chiefly to transacting the business of the association and discussing problems of common interest. President Fred J. Borsch first called for a reading of the minutes by Secretary J. E. French and the treasurer's report by A. M. Doerner.

In his report on the bureau of nursery service, J. S. Wieman, superintendent, remarked on the development of the industry in the state and the larger shipments of nursery stock going to buyers in the middle west and east. He mentioned that a rotating system for membership on the advisory board was instituted at the October meeting, and three new members took office at the midwinter meeting, Melvin Surface, Wayne Melott and Otto Panzer.

Reports included the statement by A. M. Doerner that wholesale growers and large dealers find fewer complaints of unfair competition and more of a feeling of mutual helpfulness among the majority of the trade. On alpines and perennials Fred Borsch said that the season just finished was good and growers anticipate a good spring season. Wayne E. McGill made the suggestion that some experimental work be done on the defoliation of apple and pear seedlings.

Findings of experimental work were scheduled to be presented by Dean W. A. Schoenfeld and the staff of Oregon State College. However, Prof. Henry Hartman told the nurserymen that it was decided to offer these at the spring meeting at Corvallis. Brief comments were also made by J. A. Milbrath, pathologist, and Dr. Mott, entomologist, of the college.

J. A. Bacher, of the Swiss Floral Co., told of the idea of a garden con-

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WHOLESALE GROWERS

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test to be sponsored by the various garden clubs of the city. He felt that if garden contests could be instituted by which all of the various garden groups could combine their forces to see who could produce the finest display garden, it would create a larger field for nursery products. The nurserymen could lend their support in an indirect way by the donation of prizes or assisting in judging. Mr. McDonald, of the Washington department of agriculture, told of the garden contest that has been carried on in Spokane for a number of years and of the favorable results. A motion was passed that Mr. Bacher's plan be endorsed by the Oregon Association of Nurserymen.

A. McGill and E. "Mike" Dering told briefly of the various midwinter meetings they attended in the east.

In the absence of J. D. Mickle, director of agriculture, the talk on the department of agriculture and the nursery industry was given by Walter Upshaw, who said: "I believe that the only way you can work out a profitable and an effective relationship between an industry and a law enforcement group is for both parties not only to be co-operative, but to make an honest attempt to understand the difficulties of the other fellow's job."

Speaking on the "Foreign Quarantine Situation," H. F. Gronen, of the Puget Sound Bulb Growers' Association, told what had happened on the quarantine on narcissus bulbs during the past ten years and outlined some of the high lights up to the last withdrawal of the sterilization requirement on bulbs.

Ted Cramer, manager of the United States National Bank, Grants Pass, discussing "Problems in Nursery Financing," said: "One criticism I have to make of the types of nursery business and nursery financing is that it is almost impossible to make a short-term loan in view of the terms of sale."

Frank McKennon, chief of the division of plant industry, told of attending a meeting of the National Plant Board at San Antonio, Tex., recently.

J. I. Griner, of the Washington state department of agriculture, gave a short talk on quarantines. "They are a necessary evil," he said, "and I believe that all of you should become acquainted with the needs of quar-

tine in the protection of your industry and the industries of the United States from the introduction of new pests and diseases."

A resolution was adopted relative to the Japanese beetle quarantine objecting to its removal by the Department of Agriculture.

Ray Gill, who had just returned from the east, spoke briefly on reciprocal trade agreements.

W. B. Courtney, Sumner, Wash., showed slides on root knot nematode, stressing in his comments that sanitation is the all-important thing. Steam sterilization of soil was strongly recommended.

The importance of the humus content of the soil was the high light in the comprehensive discussion of soils given by Prof. R. E. Stephenson, soil engineer, Oregon State College.

Frank McKennon was the toastmaster at the banquet, which was a great success. He took the place, also, of the speaker of the evening, Dean Collins, who was down with influenza.

The Pals of the West furnished the music, and those who attended the "Dude Ranch" last July know how good they are.

OREGON NOTES.

Fred Borsch, Frank McKennon and John Wieman attended the Washington convention, January 30, at Seattle.

Peterson & Dering, Inc., Scappoose, has erected a cold-storage room for cuttings and late orders, which is 16x35 feet.

The next meeting of the Portland

Nursery Club will have as the speaker of the evening Walter Gerke, landscape architect, who will tell the nurserymen what he feels they can do to aid the landscape men in the way of growing shrubs not now available.

ESTIMATING CHARTS.

John Surtees, whose book on "Nursery Cost Finding" is a trade textbook, is providing in simple form estimating charts prepared from his ten years of experience with the Outpost Nurseries, Ridgefield, Conn. The first consists of twenty mimeographed pages in a heavy paper cover with spiral binding. It provides tables for the rapid computation of tree ball sizes and weights, excavation of tree pits and hedge trenches, and lawn areas according to various shapes and designs. The set is \$2.

This booklet, says Mr. Surtees, is the first of a series of service charts which will cover the entire field of landscaping costs and, when completed, will consist of five or six issues. The reception of the first book in the series has been quite encouraging. The letters in response, commending the book and its helpfulness, have encouraged the author to undertake the ambitious work of compiling a series of charts which will eventually include the cost of practically every operation that is encountered in any landscaping project, including the cost of walls, walks, paths, driveways, etc.

The second book of the series will be ready about the middle of June, and the remaining numbers will be issued at intervals of approximately six months, states Mr. Surtees.

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COURSE AT RUTGERS.

[Continued from page 6.]

of the school increased to more than 100 nurserymen principally because of the appearance of Dr. L. C. Chadwick, of Ohio State University. Considerable discussion, most of it in agreement, followed Dr. Chadwick's presentation of his selected list of evergreens. Dr. Chadwick's second talk on fertilization of nursery stock included methods for improving soils. He stressed the importance of including green manure crops in the rotation.

Prof. M. A. Blake, horticulturist, showed how trees respond to environment. "If best results are to be obtained in landscaping and improving this region, attention must be given to the selection of trees adapted to New Jersey's environment and to the establishment of an efficient cultural procedure," he said. D. M. Goss pointed out the various ways of controlling soil reaction.

Ben Blackburn, widely known landscape gardener, opened the third day's program with a well illustrated lecture on the use of native trees in landscape plantings.

Dr. S. A. Waksman, internationally known soil microbiologist, presented a splendid treatise on peat and peat moss. He stated that the peat obtained from Maine, Oregon and Washington was as good as that formerly imported from Germany and Sweden. "Peats obtained from different parts of this country vary considerably in physical and chemical properties and in their uses," he stressed.

Dr. P. P. Pirone discussed the more serious diseases of trees, shrubs and nursery stock prevalent in New Jersey during the past two years. Dr. C. C. Hamilton, entomologist, reviewed the various ways of controlling insects on nursery stock. T.C. Longenecker discussed essentials of lawn building and care, in the absence of Dr. H. B. Sprague, who was originally scheduled for this subject.

L. C. Schubert, of the Somerset Rose Nursery, New Brunswick, opened the fourth day of the school with some practical suggestions on handling and selling perennial plants. Mr. Schubert also discussed the qualities of some of the newer perennial plants. Dr. C. C. Hamilton dis-

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ELM, American, Moline and Vase,
up to 4 ins. All transplants.

MAPLE, Norway, up to 3½ ins.
Transplants, extra select, spaced
7x7 ft.

POPLAR, Lombardy, up to 2 ins.

WILLOWS, Thurlow, up to 3 ins.

BARBERRY, Thunbergii, up to 2 to
3 ft.

SPIRAEA, Vanhouttei, up to 5 to 6 ft.

APPLE, 2-year.

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cussed methods and materials used to control insects on perennials.

A highlight of the afternoon session was a quiz program, in which the students asked a group of growers questions pertaining to their specialties. On the platform were Charles Hess, who answered questions on propagation and varieties of nursery stock; C. R. Jacobus, who answered queries pertaining to perennials, and Walter Ritchie, who handled questions on landscape work and general tree practices.

Prof. R. B. Farnham opened the last day's program by discussing ways of selling perennials at a profit. In a well illustrated lecture, Ben Blackburn showed many successful ways of using herbaceous perennials.

Fred Jackson, of the New Jersey department of agriculture, Trenton, reviewed the 1938 and 1939 campaigns for advertising New Jersey nursery stock and followed with a detailed description of the campaign which will be launched this spring.

In summarizing the course, Dr. Pirone awarded several small jars of a colchicine preparation to the nurserymen who were able to answer questions pertaining to problems covered during the week.

The quiz program, initiated the previous day, was resumed, with Charles Hess, Miss E. S. Haines, Fort Washington, Pa., and George Jennings, Ralston, N. J., on the platform. This novelty proved so popular that it will be included in future courses.

After the distribution of certificates, the group disbanded with high praise for the course and with the hope that the course would be repeated in 1941.

PERENNIAL GROWER HINTS.

[Continued from page 8.]

best plants to sell are those from spring sowings.

Delphinium Belladonna and the improved variety or Cliveden Beauty, bellamoxum or Blue Grotto and Lamartine are usually easier to grow and hardier than the hybrids, but will not sell so well in bloom. The dwarf chinense in blue or white is attractive and is handled easily.

During midsummer, hardy phloxes are easily the showiest perennial available. They handle easily and do well almost everywhere. The number of varieties is legion and any

selection must be controversial. Our experience has shown that decided colors sell best, and any which show a trace of mauve or magenta start with a handicap regardless of their other good qualities. The following would be my selection of the best: A. L. Schlageter, the most popular bright red; Jules Sandeau, dwarf bright pink; Rheinlander, early rich salmon; Harvest Fire, vigorous salmon-orange; Captain Koehl, deep blood-red; Evelyn, soft lively pink; September Snow, white with a red eye; Caroline Vandenberg, attractive violet, but not too good a seller; Mrs. Jenkins, pure white; Silverton, the best pale blue to date.

I might qualify this by saying that Mrs. Jenkins is far from perfect. Up until now, no other white quite combines all its good qualities, although some of them are better on one or two points. Miss Lingard is, of course, in a class by itself. There are many other varieties that are good, but I think the list above is outstanding.

Another good midsummer item is Veronica Blue Spire, and in late summer Veronica longifolia subsessilis is showy, easy to handle and a good sales item. A good companion plant to this is Tritoma Pfizeri, with its showy orange spikes.

Aster Frikarti Wonder of Stafa is one of our finest late summer plants, and if it is kept pinched until mid-July, a compact rounded plant is produced. This must be grown from cuttings. We have had reports that some find it difficult to grow, but where it does well it is one of our finest hardy plants. The dwarf asters are also an item that will

find some sale. Among these our favorite is Snowsprite and for somewhat late, Blue Bouquet. The tall varieties also find some sale, especially varieties like Beechwood Challenger, deep red; Mount Everest, pure white, and Skyland Queen, large-flowered, light blue. Harrington's Pink is a deservedly popular sort, and the new variety Red Cloud is a good companion. Pinching up until late July will tend to keep all of these compact and make them more easily handled.

Hardy chrysanthemums end up the parade, and here again the selection of varieties is large. The new cushion varieties are excellent and especially valuable because of their hardiness, which is a relative point with most of the other sorts. Cuttings or runners planted in late April or early May make excellent plants by fall, especially if pinching is practiced.

Next season two new asters will be introduced that bloom along with the chrysanthemums. One of these is a soft blue and the other an attractive shade of rose. We think these will make splendid companion plants to bring up the yellow, bronze

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| | 1/4 lb. | lb. |
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| <i>Cherry, Mahaleb</i> | .25 | .65 |
| <i>Cherry, Mazzard</i> | .25 | .65 |
| <i>Plum, Myrobalan</i> | .25 | .75 |
| <i>Anemone triplinervia, clean seed</i> | .40 | 1.50 |
| <i>Azalea, we have a complete assortment of high quality seed, all tested by us. See our catalogue for these.</i> | | |
| <i>Berberis Thunbergii atropurpurea, dry berries, 10 lbs.</i> | \$45.00 | 1.50 |
| <i>Berberis Thunbergii atropurpurea, clean seed</i> | .80 | 12.50 |
| <i>Bignonia radicans</i> | .60 | 2.00 |
| <i>Cornus alternifolia</i> | .50 | 1.50 |
| <i>Cornus alternifolia, clean seed (choice of Northern or Southern)</i> | .25 | .80 |
| <i>Cotoneaster lasianthus</i> | 1.30 | 4.50 |
| <i>Crataegus Arnoldiana, clean seed</i> | .85 | 2.75 |
| <i>carrii, clean seed</i> | 1.65 | 5.00 |
| <i>seecines, clean seed</i> | .58 | 1.50 |
| <i>sescooides, clean seed</i> | .50 | 1.75 |
| <i>cordata, clean seed</i> | .75 | 2.50 |
| <i>Crataegus, clean seed</i> | 2.00 | 6.00 |
| <i>mollis, clean seed</i> | .45 | 1.25 |
| <i>miltida, clean seed</i> | 1.00 | 3.00 |
| <i>Oxycantha, clean seed</i> | .25 | .75 |
| <i>punctata, clean seed</i> | .45 | 1.50 |
| <i>Ilex cornuta, clean seed</i> | 1.00 | 3.50 |
| <i>opaca, clean seed</i> | .60 | 2.00 |
| <i>Juniperus virginiana, clean seed, choice of Eastern or Western</i> | .70 | 2.50 |
| <i>Malus baccata, red fruit</i> | .75 | 2.50 |
| <i>yellow fruit</i> | .75 | 2.50 |
| <i>mandshurica</i> | .75 | 2.50 |
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| <i>Prunus maritima, Cape Cod</i> | .30 | 1.00 |
| <i>Quercus, hand-selected acorns of prime quality, stored at proper temperature.</i> | | |
| <i>coccinea, true Northern only, 16 lbs.</i> | \$2.00 | |
| <i>Phellodendron, 10 lbs.</i> | \$2.50 | |
| <i>rubra, 10 lbs.</i> | \$2.00; 100 lbs. | |
| <i>\$15.00</i> | | |
| <i>rubra ambigua (borealis) 10 lbs.</i> | \$2.00; 100 lbs. \$15.00 | |
| <i>Rhododendron, we have a complete assortment of high-quality seed, all tested by us. See our catalogue for these.</i> | | |
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| <i>humilis, clean seed</i> | 1.35 | 5.00 |
| <i>Syringa Henryi, clean seed</i> | 2.00 | 6.00 |
| <i>Jasminum, clean seed</i> | 2.00 | 6.00 |
| <i>Thuja occidentalis</i> | .95 | 3.00 |

F. W. SCHUMACHER, Horticulturist
Jamaica Plain, Boston, Mass.



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and white shades of the chrysanthemums.

Should you be fortunate in being able to grow many of your plants, often a good profit may be picked up by sale of the blooms of plants that you have in surplus.

In conclusion, I want to suggest that an effort be made to get away from the commoner, too easily produced items grown from seeds and emphasize the importance of the better types and varieties grown from cuttings and divisions.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in the American Nurseryman.]

W. N. Scarff's Sons, New Carlisle, O.—Fifty-first annual yearbook contains forty-eight pages and cover, 6x9 inches, describing and illustrating berry plants, fruit trees, ornamental fruits and shrubs, nut trees, some shade trees and farm seeds.

Jackson & Perkins Co., Newark, N. Y.—Retail catalogue of roses and novelties in perennials, handsomely printed in colors, with full descriptions of plants in large type, even surpassing last year's initial handsome retail catalogue—an up-to-the-minute piece of printed merchandising—48 pages, 8½x11 inches.

A. M. Leonard & Son, Piqua, O.—Handbook of nursery and garden tools, including tree surgery implements, 96 pages and cover, 4½x6¾ inches.

Gardner's Nurseries, Rocky Hill, Conn.—Wholesale price list, dated January 1, 1940, shows in pictures how Japanese barberry, Canada hemlock and other items are grown at this 300-acre wholesale nursery; accompanied by prices, 16 pages, 6x9 inches.

Mount Arbor Nurseries, Shenandoah, Ia.—Spring wholesale trade list, dated February 1, offers complete assortment of general nursery stock in 88 pages, 6x9 inches.

Henderson's Botanical Gardens, Greensburg, Ind.—Price list of native flowering and medicinal plants, 28 pages and cover, 6x9 inches.

Barnes Bros. Nursery Co., Yalesville, Conn.—Wholesale price list for spring, 1940, of evergreens, deciduous trees and shrubs and perennials, printed by ploughgraph, 32 pages, 5½x8¼ inches.

William Borsch & Son, Maplewood, Ore.—Retail catalogue of hardy native and imported alpines and perennials, well described, 64 pages and cover, 6x9 inches.

Evergreen Nursery Co., Sturgeon Bay, Wis.—Wholesale price list for spring of lining-out stock and evergreens and deciduous plants and specimen evergreens, 8 pages and cover, 4x9 inches.

Tarlton Nurseries, McMinnville, Tenn.—Trade price list of forest tree seedlings, shrubs and vines for lining out, 4 pages.

Brown Bros. Co., Rochester, N. Y.—Wholesale price list, dated January 25, 8 pages in circular form, 6x10 inches.

Lake City Nurseries, Lake City, Minn.—Wholesale price list, dated February 1, of general line of stock in circular of 12 pages, 4x9 inches.

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Ohio Short Course

Summaries of Talks Delivered by Staff of Ohio State University and Guest Speakers

Despite adverse weather conditions, about 160 attended the short course for nurserymen, landscape gardeners and arborists at Ohio State University, Columbus, January 22 to 24. Prof. L. C. Chadwick opened the sessions with a few words of welcome.

At the annual banquet, held at the Beechwold Tavern, Dr. J. H. Gourley, chairman of the department of horticulture and forestry, was the speaker, on "Looking Ahead in Horticulture." He stressed diversification in the production of nursery stock. Further, he pointed out that, in view of the recent activities on the part of the government in regard to small business, it would be well for the horticulturist to clean up his own business rather than let the government do it. Movies of spring bloom and autumn color in the Arnold Arboretum were shown, through the courtesy of Donald Wyman.

Laurie on Experiments.

Prof. Alex Laurie, of the department of floriculture, opened the first session with a report of experimental work. Fertilizer experiments on Morelaine elm have been in progress since the autumn of 1931. Conclusions drawn from this work are: October applications of fertilizer are slightly more beneficial than those made in April. Compared with applications made in July, spring and autumn have given better results. Of the fertilizers tested, the complete ones are most satisfactory. Those used were a 12-6-4, 6-6-4 and Ammo-Phos, which is 11-48-0. Applications of ammonium sulphate (20-0-0) have given poor results, being only slightly better than the unfertilized plot. It was quite apparent from these 8-year tests that ample amounts of phosphorus were beneficial in encouraging fibrous root growth. In the particular type of soil in which the experiments were carried on, potash applications were not beneficial. Regardless of the quantity or time of application of the fertilizer applied, an abundant supply of moisture is necessary for the plants to show any response. Elm trees that received a 12-inch mulch of straw showed the greatest caliper increase.

Experiments on the effects of pH

and trace elements on roses have been in progress for several years, and it has been found that zinc, manganese and magnesium varying in rate of application from one-half to one pound per fifty square feet were useful in increasing growth and production. Plants grown in soils varying in pH from 5 to 8 showed negligible differences in production. Results of experiments on soil type as correlated with the production on roses showed that at least twenty per cent moisture, coupled with good aeration, is necessary for satisfactory production.

In co-operation with the Texas agricultural experiment station, several varieties of roses were tested for their survival and bloom production. In general, storage either below or above freezing was better than at freezing temperature itself. The standard practice of pruning roses to twelve inches was found to be of little value, as with some varieties this gave poorest production the year following. Waxing roses generally gave most satisfactory results.

Tests on mulches for roses were conducted. It was found that unpruned plants gave greater production than those plants which were

pruned. Coverage of at least six inches of the plant with German peat moss or glass wool resulted in longer length of live canes than where soil was used alone.

As a means of sterilizing soil, chloropicrin has been tested. Results so far indicate that the gas, when applied as a liquid at the rate of three to ten cubic centimeters per square foot of surface area of the soil, will reduce weed seed growth and partly eliminate damping-off. It is necessary, however, that the soil be at least 65 degrees Fahrenheit.

It has generally been found that vitamin B₁ applications are beneficial when plants are grown in alkaline sandy soils devoid of organic matter. Since most organic matter contains vitamin B₁, there is a sufficient supply of the substance in soils that are moderately well supplied with humus.

Federal Government's Work.

Dr. F. E. Gardner, of the United States Department of Agriculture, summarized a portion of the work that the federal government has been doing of interest to nurserymen.

He pointed out a method of rooting certain difficult plants, although it is not adaptable on a large scale. The bud at the growing tip is covered so that the shoot must grow through a cylindrical tube about six inches long. Black paper or other impervious weather-resistant material is used.

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As a result of this treatment, the shoots are etiolated; that is, white and contain no green coloring. If these shoots are then removed and cut so that the large part of the etiolated portion is in the rooting medium, rooted cuttings are obtained. He has found this to be of great use on apple varieties.

Since it is often desirable to obtain own-root plants from stock that had previously been grafted, he pointed out that wrapping the grafts with copper wire just above the union eventually chokes off the stock, causing the production of scion roots, provided the graft union is set three inches below the soil level. Root cuttings are a convenient method for the propagation of apple, cherry, hawthorn, flowering quince, plum and pear. More roots are produced on cuttings if the outside bark is scraped or the basal portion of the stem split, especially when root-inducing substances are used. Undoubtedly this is due to better contact with the inner tissues by the growth substances.

Growth substances have been found to be beneficial on hardwood cuttings only if the cuttings are callused before treatment. One of the newest and most promising uses of the synthetic growth substances is in preventing the dropping of plant organs such as leaves, flowers and fruits. Dr. Gardner himself is responsible for the valuable piece of research in which the preharvest drop of McIntosh apples was controlled by spraying the trees just prior to drop with naphthalacetamide. Since the method is not yet in a form ready to pass on to the commercial grower, several years' work will be necessary to establish dependable spray programs.

It has been found that with the genus *Ilex*, of which the male and female blossoms are on separate plants, pollination may be a problem. Spraying the female flowers with dilute solutions of growth substances results in setting and growth of the fruit. No seeds, however, are produced as a result of this treatment.

Growth-stimulating Substances.

D. C. Kiplinger, of the Ohio agricultural experiment station, reported on the progress of the work in the use of growth substances in propagation. Since the various growth substances produce somewhat different responses, it is possible by combinations to obtain several different effects on plants. For example, naph-

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naphthalacetamide is useful in producing roots, vitamin B₁ is essential for growth of roots and thiourea is effective in preventing leaf drop on cuttings.



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The ideal machine for the Commercial Grower... Goes in narrow rows... Has ample power.

The newer forms of commercial growth substances are obtainable as dusts, since these are most convenient to use on large-scale operations. For general treatment of all cuttings, it

is recommended that the basal ends of the cuttings be first moistened with water, then dipped in the dust, tapped to remove excess dust and placed in the rooting medium. The use of alcohol as a wetting agent was not found to be beneficial.

For seeds, just enough powder to give a gray color is all that is necessary. Treatment of rootstocks is accomplished by shaking the dust and the roots in a closed container. Growth substances can also be dissolved in lanolin for use in smearing on localized places, such as a graft union. From results obtained so far, it has been found that treatment of seeds has given little significant results. However, more work is being conducted at the present time.

Rootstocks of *Juniperus virginiana* and *Juniperus horizontalis* were severely injured by 24-hour soaking in indolebutyric acid at two and four milligrams per hundred cubic centimeters. Dusting root systems of these stocks with commercial preparations used for rooting also caused injury. Weaker concentrations, however, were thought might be beneficial. Treatment of scions of *Juniperus chinensis columnaris glauca*, *Juniperus virginiana Canæti* and *Juniperus virginiana Keteleeri* with indolebutyric acid at three and five milligrams per hundred cubic centimeters for twenty-four hours caused injury. Growth substances dissolved in lanolin when smeared on the graft union after grafting promoted callusing. This callusing was often detrimental, as the amount of callus produced was sufficient actually to separate the stock and scion. Commercial asphalt emulsions are also effective in promoting callusing in graft unions.

Hardwood cuttings have so far

shown no response to growth substances. Treatments of cuttings of evergreens and deciduous plants have in general decreased the time required for rooting and production of root systems superior to untreated cuttings. Plants difficult to propagate were not benefited by treatment to the extent of making the practice commercially feasible. Cuttings of narrow-leaved evergreens taken in January and February were more responsive to treatment than cuttings taken in November. Lower concentrations of growth substances were required after the narrow-leaved evergreens had passed through their resting period. Tests on dusting of root systems of transplants are now in progress, but no results were given. It was pointed out that in all propagation practices environmental factors, which are moisture, temperature and humidity, are more important in the rooting processes than any growth substances applied.

Variations and uses of the Canada hemlock were discussed by John C. Swartley, research assistant in the department of horticulture. Mr. Swartley has made a complete study of the many existing types of hemlocks and has photographed most of the variations that are of importance. Slides were shown of the variations and the attributes of each were discussed.

[To be continued in next issue.]

VITAPANE CHANGES NAME.

To avoid similarity in name with any other products and to protect consumers who want the original and genuine Vitapane, the Arvey Corp., Chicago, is changing the name of the product Vitapane to R-V-Lite.

R-V-Lite (Vitapane), the day-

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Admitting over 60 per cent ultraviolet rays, allowing more sunlight to pass through, being greaseless, odorless, transparent, weatherproof and shatterproof, having excellent insulating qualities for maintaining uniform temperature and humidity—these qualities have made R-V-Lite (Vitapane) a favored glass substitute wherever glass is used.

KIRKLAND REBUILDS.

The R. O. Kirkland Nursery, Bountiful, Utah, which is located on the state's most traveled highway, nine miles north of Salt Lake City, is just completing a number of new buildings for the spring business.

The old lath house and store have been torn down, and a new lath house will be four times the size of the old. A new modern salesroom and office, packing shed, storage room and cellar are being finished, which will make this one of the best equipped nurseries in the state.

Considerable land has been added to the acreage which is being devoted to the growing of evergreens, shrubs and trees. An extensive display ground of the various planting materials will be planted this spring adjacent to the buildings on the main highway.

Business has been splendid the past season, and a further increase with the new setup is expected by Mr. Kirkland.

CERTIFICATE of preliminary dissolution was recently filed by Cragholme Nurseries, Inc., Greenwich, Conn.

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HELP WANTED

A thoroughly experienced nursery superintendent, having a number of years' experience with large reputable nurseries, also having a complete knowledge of all types of seeds, fertilizer material and a detailed knowledge of propagating. Be able to handle men efficiently and supervise nursery routine. If you do not possess these qualifications, please do not apply. A modern home will be provided on the premises. Our business consists of 120 acres of nursery devoted to producing stock for our retail clientele.

Apply by letter first, giving qualifications and references; same will be treated confidentially.

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Nursery salesman to work in Chicago area.

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Nurseryman, married, working with many years' actual experience of general nursery work, \$24.00 per week, steady position with comfortable house in our nurseries at Babylon, L. I. Man as well as wife must speak English in order to receive telephone messages.

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Field foreman and propagator for small nursery.

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Nurseryman; steady, industrious man who can handle men and help develop large game preserves and recreational areas containing an arboretum of over 6000 species already planned and laid out on paper; married man, sober and steady; salary \$100 a month, house, electricity, fuel free; outside work, no greenhouses.

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ROSE REGISTRATIONS.

The American Rose Society's registration committee has approved applications for registration of the following roses. If no objections are raised before March 5, 1940, the registration of these names will become permanent as of that date, states R. Marion Hatton, secretary.

Sorrel. Hybrid tea. Originated by Dr. J. H. Nicolas, Newark, N. Y., to be introduced by Jackson & Perkins Co., Newark, N. Y., in 1940. A seedling of Editor McFarland x (Golden Emblem x Radiance x Tallisman). Plant is described as vigorous, upright, with dark green, crinkled foliage. A 4-inch bloom, with twenty-five petals of sorrel color and good fragrance.

Opal. Hybrid tea. Originated by Jean Gaujard, Peyrins, France, to be introduced by Jackson & Perkins Co., Newark, N. Y., in 1941. Said to be a seedling of our parentage not given. Flower is between five and six inches in diameter, with fifty petals. The color is buff orange; fragrance, moderate. Upright plant, with normal foliage.

Elite. Hybrid tea. Originated by Mathias Tantau, Uetersen in Holstein, Germany, to be introduced by Jackson & Perkins Co., Newark, N. Y., in 1941. Said to be a seedling, but parentage not given. A 5 to 6-inch bloom with twenty-two petals. Color, salmon pink, with outer petals slightly deeper. Plant is described as free, with normal green foliage.

Good News (Bonne Nouvelles). Hybrid tea. Originated by Francis Meilland, Rennes, France, to be introduced by Conard-Pyle Co., West Grove, Pa., in 1940. Said to be a seedling of (Radiance x Sonne) x (Claudius Pernet x (Joanna Hill x Coemate Vandal)). Flower is described as five inches in diameter, fifty to seventy-four petals, silvery pink in color. Tea fragrance. Plant bushy, with leathery foliage.

Dr. Kirk. Hybrid tea. Originated by Charles Mallerin, Varces, France, to be introduced by Conard-Pyle Co., West Grove, Pa., in 1940. Said to be a seedling of Charles P. Kilham x an unnamed seedling. A 3 1/2 to 4 1/2-inch flower, with twenty-four to thirty-five petals, the color spinnel red washed scarlet red. Fragrance, slightly spicy. Plant is described as vigorous, with moderately bushy, with leathery foliage.

Lady Monford. Hybrid tea. Originated by Burpee Nurseries, No. Hinching, England; introduced by the Conard-Pyle Co., West Grove, Pa., in 1939. Parentage not given. A 3 to 3 1/2-inch bloom, with thirty to thirty-five petals. Cream white in color, with honeysuckle fragrance. Plant bushy, with leathery, glossy foliage.

Poulsen's Yellow. Polyantha. Originated by Svend Poulsen, Copenhagen, Denmark; introduced by Conard-Pyle Co., West Grove, Pa., in 1939. Said to be a seedling of Mrs. W. H. Cutbush x Gottfried Keller. A 2-inch flower with fifteen petals, the color buttercup yellow. Fragrance slight, spicy. Plant upright and bushy, with shiny, leathery foliage; claimed to be moderately bushy.

Pixa. Chinensis minima. Originated by John de Vink, Boskoop, Holland, to be introduced by the Conard-Pyle Co., West Grove, Pa., in 1940. Said to be a seedling of Ellen Poulsen x Tom Thumb. A 1/2 to 1-inch bloom with fifty to sixty petals. Color, white, with faint Hermosa-pink center, changing to Hermosa pink in cool weather. Fragrance, faint, white clover. Plant described as dwarf, bushy, with small spear-shaped foliage. Blooming continuously.

Baby Gold Star. Chinensis minima. Originated by Pedro Dot, Barcelona, Spain; to be introduced by the Conard-Pyle Co., West Grove, Pa., in 1940. Said to be an indica minima hybrid. A 1 to 2-inch flower with twelve to fifteen petals. Color, primrose yellow; slight tea fragrance. Plant is described as dwarf, of irregular growth, with small, lanceolate, soft foliage. Hardy.

Chevy Chase. Ramblar. Originated by Whitman Cross, Chevy Chase, Md.; introduced by Bobbink & Atkins, Rutherford, N. J., in 1939. Said to be a cross of Rosa Soulieana x the polyantha, Eblouissant. Flowers are over one inch in diameter with twenty-five or more petals. Color, crimson. Slight fragrance. Growth up to fifteen feet, with light green, disease-resistant foliage. Blooms abundantly in May and June.

Daylight. Hybrid tea. Originated by Whitman Cross, Chevy Chase, Md.; introduced by Bobbink & Atkins, Rutherford, N. J., in 1939. Said to be a cross of Grange Colombe x Los Angeles. A 4-inch bloom with forty to fifty petals, creamy bluish pink in color, with moderately strong fragrance. Plant tall, upright, with medium-size dull green foliage.

Suntan. Hybrid tea. Originated by Whitman Cross, Chevy Chase, Md.; introduced by Bobbink & Atkins, Rutherford, N. J., in 1939. Said to be a cross of (Mme. Gregoire Staechelin x Bloomfield Comet) x Mrs. Pierre S. duPont. A 4 to 5-inch flower with fifty to sixty petals, deep orange yellow in color. Moderately fragrant. Plant upright with large, leathery foliage.

Red Boy. Hybrid tea. Originated by Whitman Cross, Chevy Chase, Md.; introduced by Bobbink & Atkins, Rutherford, N. J., in 1939, as a polyantha. Flower is described as flat, three inches or less, with five petals. Color, fiery red orange, changing to pink with age. Slight fragrance. Plant described as a bush four to five feet tall, with pointed shiny foliage. A continuous bloomer.

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The No. 12 size holds twelve plants in spaces 2x2x2 1/2, and the No. 6 holds six plants in spaces 2x2x2 1/2. The over-all size of the No. 12 Economy Plant Package is 19x2x2 1/2. The size of the No. 6 Economy Plant Package is 12x2x2 1/2.

This is the modern way to retail small plants such as Tomatoes, Petunias, Aster, Marigolds, Zinnias, etc. You save much of the labor attached to potted plants and you have all the advantages as each plant is in its own individual compartment and its roots are not disturbed in transplanting.

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No. 12 Economy Plant Packages, per 1000 sets (Will hold 12,000 plants).....\$25.00

No. 6 Economy Plant Packages in lots of 500 sets (Will hold 6000 plants).....15.00

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No. 6 Economy Plant Packages in lots of 100 sets (Will hold 600 plants).....2.40

Trial offer of 3 Plats, 12 No. 12 Plant Packages, 12 No. 6 Plant Packages—all for \$1.00 Cash. Shipped Express Collect.

All Economy Plant Packages come K.D. and must be assembled with a stapling plier. Plats come K.D. and must be assembled by yourself.

Cash with order unless credit is established.

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SOUTHWESTERN NEWS.

L. W. Lawson, McPherson, Kan., has been awarded the contract for landscaping the grounds of the new post office at St. Joseph, Mo.

A. E. Barnes, formerly with the Foster Farms, Bartlesville, Okla., has bought a place south of town at the junction of the Nowata and Tulsa highways, where he will operate a nursery sales yard. Mr. Barnes took possession February 1.

One of three fires in nineteen minutes which called the Lawrence, Kan., fire department out in weather 6 degrees below zero January 25 took the fine old home of Will Griesa. Though many belongings on the first floor were saved, everything else went. The insurance companies rated it a complete loss, the house burning practically to the ground. Fortunately it occurred in the daytime, or Mr. and Mrs. Griesa and their daughter might easily have been trapped.

Governor Rayne Ratner has proclaimed the last Friday in March as Arbor day for Kansas. The Forest Service, Federation of Women's Clubs, garden clubs and nurserymen are all coöperating on plans for the wide observance of the day.

F. Donald Gordon, Oklahoma City, Okla., has purchased eighty acres near Wichita, Kan., where he intends to establish a nursery.

The Schell Nursery Co., Wichita, Kan., was low bidder on a W. P. A. project for landscaping a new school building at Iola, Kan. The bid of \$3,200 included one-year maintenance and free replacement, together with construction of sidewalks and flagpole.

A Kansas roadside improvement project was let on January 16 for Saline county. Approximately one and one-half miles in length, it is to include 300 trees, 1,312 shrubs and forty-nine evergreens.

Two roadside improvement projects for Oklahoma were let on February 6. One, for Oklahoma county at Oklahoma City, called for 785 shade trees, 667 shrubs and 216 evergreens. The other, for Noble county at Perry, was for 373 shade trees, 343 shrubs and forty-six evergreens.

Bids for three roadside improvement projects were opened at Lincoln, Neb., January 18. The first, for the Fairmont-Friend federal aid projects Nos. 55-C(4), 55-D(4) and

171-C(3), called for 2,261 trees, 2,398 shrubs, 271 evergreens and 603 vines. The second, for the Columbus-Shelby federal aid project No. 86(5), required 4,016 trees, 105 evergreens, 212 shrubs and 531 vines. The third, for the Crawford-Chadron federal aid project No. 265(4), was for 939 shrubs, 106 trees and thirty evergreens.

Richard E. White, executive secretary of the A. A. N., took advantage of a lull between the meetings of the Western Association of Nurserymen and the Oklahoma State Nurserymen's Association to visit friends at Manhattan, Kan., where Mr. White was formerly a member of the faculty of the state college.

It is interesting to note that twelve states were represented at the recent meeting of the Western Association of Nurserymen, one of the most representative groups in several years.

CARL TROMBLE, proprietor of Tromble's Nursery, Bentonville, Ark., was elected president of the Arkansas Horticultural Society at the sixtieth annual meeting January 16.

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Table of Contents

| | |
|---|----|
| New Department | 2 |
| The Meetings Are Over..... | 2 |
| Effect of War..... | 2 |
| Rhododendron Mucronulatum | 2 |
| Propagating Canada Hemlock Varieties [illus.] | 3 |
| By John C. Swartley | |
| Co-operate in Show | 5 |
| Minnesota Head | 5 |
| Peat and Peat Moss..... | 6 |
| By Dr. S. A. Waksman | |
| Rutgers Short Course..... | 6 |
| Perennials from Profit Angle..... | 7 |
| By L. C. Schubert | |
| Identifying Woody Plants in Winter [illus.] | 9 |
| By Leon Croizat | |
| Excerpts from a Plantsman's Notebook | 11 |
| By C. W. Wood | |
| Henry T. Maxwell (portrait)..... | 12 |
| Michigan Meeting Sets New Record | 13 |
| By Harold E. Hunziker | |
| —Elden H. Burgess (portrait)..... | 13 |
| Wisconsin Meeting | 14 |
| Set Illinois Dates..... | 14 |
| This Business of Ours..... | 16 |
| By Ernest Heming | |
| —Germinating Chinese Chestnuts..... | 16 |
| —Pruning | 16 |
| Case Incorporates | 17 |
| Diseases of Trees | 18 |
| By Dr. Leo R. Tehon | |
| —New Diseases of Maples | 18 |
| Pittsburgh Group Meets | 19 |
| Obituary | 20 |
| —Wilber G. Siebenthaler (portrait) | 20 |
| —Dr. W. M. Moberly | 20 |
| —James McHutchison (portrait) | 20 |
| —Charles Stevens Wassum | 21 |
| —J. H. Frost | 21 |
| —Worth Spray Tetrick | 21 |
| American Association of Nurserymen | 22 |
| —Plan New York Event | 22 |
| —Jap Beetle Conference | 22 |
| Agriculture Supply Bill | 22 |
| "Greens" Work Seasonal | 23 |
| Letters to the Editor | 24 |
| —Social Security | 24 |
| —Chinese Elm as Hedge | 24 |
| —Mailing Price Lists | 24 |
| Painesville School | 25 |
| Ohio Notes | 25 |
| Meet at Memphis | 26 |
| Rhode Island Meeting | 28 |
| Meetings in Northwest | 30 |
| —Washington Meeting | 30 |
| —Oregon Meeting | 31 |
| Oregon Notes | 32 |
| Estimating Charts | 32 |
| Catalogues Received | 35 |
| Ohio Short Course | 36 |
| Vitepane Changes Name | 38 |
| Kirkland Rebuilds | 38 |
| Rose Registrations | 39 |
| Southwestern News | 40 |
| Fort Worth Meeting | 41 |
| Organize at Dallas | 41 |

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FORT WORTH MEETING.

At a meeting of the Tarrant County Nurserymen's Association, at Fort Worth, Tex., last month, members discussed frankly with the city park superintendent, Harry P. Adams, and the city forester, D. D. Obert, certain grievances of the nurserymen relating to purchase of planting stock outside the city, the choice of tree varieties and the planting-permit system, which the nurserymen claimed had not been made to apply to trees brought in from the wild by farmers.

A nurserymen's committee, composed of Edward L. Baker, John W. Akers and S. J. Brady, was appointed to confer with park board officials on stricter enforcement and possible strengthening of the planting-permit ordinance.

The nurserymen voted to go in a body to the next meeting of the city school board to lodge a protest against its maintenance of a nursery to supply planting needs.

E. C. Trauernicht, president of the association, was in the chair.

ORGANIZE AT DALLAS.

John Sarver, Dallas, Tex., was selected February 7 temporary chairman of Dallas county nurserymen, with another meeting on February 12 to effect permanent organization. Both meetings were held at the store of the B. E. Williams Floral & Nursery Co., Dallas.

Grady Brown, Mr. Williams and G. L. Burkhardt were chosen a committee to confer with Dallas city officials on the application of the present peddlers' licensing ordinance to the nursery industry. The committee was also instructed to confer with county officials as to their authority to coöperate with the state in safeguarding the public from unlicensed and uninspected sources of supply.

Gillespie Brown spoke of the menace to redbud and live oak trees from damage by vandals more intent on cashing in on native-grown stock than on planting trees likely to thrive.

SEVERE injury to E. A. McIlhenney's famous 300-acre garden at Avery Island, La., by the cold wave and three days of sleet is reported. It is estimated that \$100,000 of camellias were lost and 21,000 young azalea plants were ruined. Huge oak branches were broken by the weight of ice formations.

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| 4x4x6 | \$4.15 |
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INDEX TO ADVERTISERS

| | |
|-----------------------------------|----------|
| Adams Nursery, Inc. | 18 |
| Aeroil Burner Co. | 39 |
| American Florist Supply | 42 |
| American Landscape School | 35 |
| Andrews Nursery | 33 |
| Ariens Co. | 36 |
| Arvey Corp. | 37 |
| Augustine Nurseries | 29 |
| Bacon & Son, Edward | 23 |
| Bagatelle Nursery | 25 |
| Bailey Nurseries, J. V. | 29 |
| Ball, Inc., Geo. J. | 41 |
| Bartlett Mfg. Co. | 35 |
| Bartlett Tree Expert Co., F. A. | 43 |
| Bealle, J. B. | 29 |
| Bear Creek Evergreen Nursery | 35 |
| Bell Nursery Service | 28 |
| Bents Nurseries, W. A. | 33 |
| Berryhill Nursery Co. | 28 |
| Bobbin & Atkins | 25 |
| Bolens Garden Tractors | 41 |
| Bountiful Ridge Nurseries | 33 |
| Bowood Gardens | 25 |
| Boyd Nursery Co. | 27 |
| Braden Nursery | 28 |
| Brimfield Gardens Nursery | 21 |
| Bristol Nurseries, Inc. | 27 |
| Burr & Co., C. R. | 23 |
| Calfee, S. L. | 40 |
| Carpenter, Geo. B. | 35 |
| Chase Co., Benjamin | 43 |
| Clarke & Co., W. B. | 27 |
| Cloverset Flower Farm | 43 |
| Coe, Ralph R. | 27 |
| Commercial Nursery Co. | 33 |
| Conigisky, B. F. | 41 |
| Cottage Gardens | 27 |
| Cross, Andrew | 25 |
| Dayton Fruit Tree Label Co. | 43 |
| Denison & Blair | 31 |
| de Wilde's Rhodo-Lake Nurseries | 24 |
| Doty & Doerner, Inc. | 31 |
| Dreer, Inc., Henry A. | 24-34 |
| Dummett, Arthur | 23 |
| Economy Floral Supply Co. | 39 |
| Evergreen Nursery Co. | 29 |
| Felins | 42 |
| Forest Nursery Co. | 16 |
| Foster Nursery Co. | 33 |
| Fricke Co., J. E. | 35 |
| Garden Shop, Inc. | 43 |
| Gardner Nurseries, Clark | 35 |
| Gardner's Nurseries | 44 |
| Geraghty Nursery, J. | 23 |
| Gladwood Gardens | 40 |
| Gravely Mfg. Co. | 37 |
| Greening Nurseries | 25 |
| Hauk Mfg. Co. | 41 |
| Henderson's Botanical Gardens | 40 |
| Herbst Bros. | 21 |
| Hess' Nurseries | 21 |
| Hillenmeyer Nurseries | 27 |
| Hill Nursery Co., D. | 15 |
| Hinsdale Nurseries, Inc. | 27 |
| Hobbs & Sons, C. M. | 33 |
| Hogansville Nurseries | 33 |
| Holton & Hunkel Co. | 29 |
| Hood & Co., W. T. | 23 |
| Hook's Nursery | 17 |
| Horsford, William Crosby | 25 |
| Howard Rose Co. | 30 |
| Hunt & Son, M. H. | 42 |
| Industrial Tape Corp. | 38 |
| Jackson & Perkins Co. | 23 |
| Judson Wholesale Nurseries | 33 |
| Kellay Bros. Co. | 25 |
| Kelly Bros. Nurseries | 23 |
| Kemp Mfg. Co. | 37 |
| Kirkman Nurseries | 17 |
| Koster Co., Inc. | 23 |
| LaBars' Rhododendron Nursery | 26 |
| Lake's Shenandoah Nurseries | 24-28-33 |
| Lansing Specialties Mfg. Co. | 35 |
| Leonard & Son, A. M. | 42 |
| Louisville Nurseries | 29 |
| Lovett, Lester C. | 23 |
| Maloney Bros. Nursery Co. | 23 |
| McGill & Son, A. | 31 |
| McIlhenny, E. A. | 18 |
| Meehan Co., Thomas B. | 21 |
| Midwestern Tree Compounds Co. | 39 |
| Milton Nursery Co. | 31 |
| Moran, E. C. | 35 |
| Morningside Nursery | 40 |
| Morse Co., A. B. | 41 |
| Moss Co. | 43 |
| Mount Arbor Nurseries | 22 |
| Mount Vernon Nursery | 30 |
| Mountain View Floral Nurseries | 31 |
| Natorp Co., W. A. | 29 |
| Oberlin Peony Gardens | 40 |
| Orenco Nursery Co. | 31 |
| Outpost Nurseries, Inc. | 26 |
| Owen & Son, Inc., T. G. | 29 |
| Pacific Coast Nursery | 30 |
| Pacific Northwest Rose Nursery | 31 |
| Pastor Wholesale Nursery, A. | 29 |
| Perennial Nurseries | 27 |
| Peterson & Dering, Inc. | 31 |
| Pitts Studios | 41 |
| Portland Wholesale Nursery Co. | 30 |
| Princeton Nurseries | 23 |
| Process Color Printing Co. | 41 |
| Ransom Nursery | 40 |
| Richards' | 27 |
| Roberts Nursery Co. | 23 |
| Scarff's Nurseries | 33 |
| Schifferli & Son Nurseries, F. E. | 33 |
| Schumacher, F. W. | 34 |
| Scotch Grove Nursery | 29 |
| Sherman Nursery Co. | 29 |
| Sherwood Nursery Co. | 31 |
| Siebenthaler Co. | 21 |
| Soilmaster Co. | 39 |
| Southern Nursery Co. | 33 |
| Standard Engine Co. | 39 |
| State Road Nursery | 25 |
| Storrs & Harrison Co. | 20 |
| Studley, Walter A. | 29 |
| Summit Nurseries | 33 |
| Surtees, John | 42 |
| Swink Nursery Co. | 27 |
| Tardif Domestic Peat Sales Co. | 37 |
| Ten Dyke, D. E. | 40 |
| Twitty Nursery Co. | 40 |
| Uecke Evergreen Nursery | 29 |
| Ullrich Nursery | 27 |
| Vaughn's Seed Store | 19 |
| Visser's Nurseries | 24 |
| Washington Nurseries | 31 |
| Waynesboro Nurseries, Inc. | 25 |
| Weathered Oak Herb Farm | 27 |
| Westminster Nurseries | 23 |
| Willis Nursery Co. | 25 |
| Wisconsin Moss Co. | 43 |
| Wonderland Nurseries | 27 |
| Woodruff & Sons, Inc., F. H. | 35 |
| Wyman's Framingham Nurseries | 26 |



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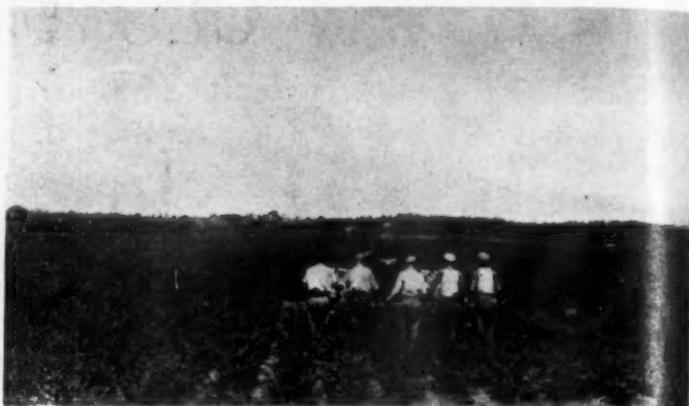
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